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The **Atari Portable Entertainment System** is the world's first hand–held color portable video game system. The system can be played anywhere.

Your Monitor on the World of Atari

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TIME TO RENEW?

Check your mailing label. If you see an **8907** (7th month of 1989, i.e. July!) on the first line, then this is your **last issue** of CN. Get your renewal in right away to be sure you do not miss any issues. (If you see an **8908, 8909,** or **8910,** your subscription will soon be ending. Please try and renew early––it is a big help to us. If you belong to a WAACE club, renew via your club

KEY:

□ ST–related review or article.

■ XE/XL related review or article.

• Machine independent article.

ATARI DESKTOP PUBLISHING

Current Notes is produced on an Atari **Mega ST4** with an Atari **SLM804 Laser Printer** using Time-works Desktop **Publisher ST**. Some artwork is scanned in using the **Navarone Scanner** and some ads are produced with **Calamus** or **PageStream**.

From the Editor's Desk:

This is the issue of CN that almost wasn't. About 10 days ago, I was facing a particularly busy week. Being the end of the school year, and having children in elementary, middle, and high schools, there were quite a few rounds of award ceremonies, band concerts, etc. My wife, who is heavily involved in scout and school activities, had a full schedule. My oldest daughter was graduating from HS in a week, Grandma was slated to arrive, things were busy at work, and, of course, the July/August issue of CN had to be completed.

The last thing I needed was trouble with my computer. And sure enough, that is just what happened. I have a Mega4 with two 40Mb hard disk drives. Ever since the second 40Mb drive was installed, however, I had been having sporadic problems with the hard drives. I'd try to read a file from disk and I would get a message, "Error reading drive x" or something like that and I couldn't access the file. This seemed to happen only on the 2nd drive, so I concentrated my work on the first 40Mb unit and ignored the problem. Now, something else was happening. Partition directories were showing 0 bytes! I would reboot and everything would be there. But, eventually, I would get more error messages like "Your system does not have enough memory to do that," the directory would start disappearing, and I would have to reboot. Finally, it got to the point where I rebooted and the directory did not come back. Oh, oh. Trouble. Those directories had my subscription data and publishing files.

Now, I am not completely unprepared for emergencies. I switched to my backup Mega, but got the same results. The problem was, obviously, not with the computer. My files were backed up on tape. No problem, just back up the data from tape. Hooked up a relatively new 30Mb Supra to the second Mega. Couldn't get the tape unit to bootup on the second Mega with the new Supra. AIYEEE! Tried booting up the tape on the first Mega with the 80Mb. Worked fine. Not only did it boot up off the ICD boot disk, but my directories were, once more, in tact. Immediately, I pulled out floppy disks and started transferring critical data to disk.

Since the 30Mb unit appeared to be working ok, I moved my database and *Publisher ST* files to that drive (not an insignificant investment in time). Now, finally, I could get started on the issue. Suddenly, right in the middle of editing an article, a routine printout of a *Publisher ST* file rolled off the printer with a completely blank page! Now what was wrong? I tried printing something else. Blank. Checked the printer—plenty of toner. I rebooted the system. Blank. I installed the Diablo emulator and did a screen dump. Printer worked fine. I tried "printing" a text file to the printer. It worked

fine. Tried *Publisher ST* again. The page was blank. I switched Megas. Blank. I reinstalled *Publisher ST* from the original disks. Blank. I replaced *G+Plus* with *GDOS* in the Auto folder. Blank.

Could there be a virus on the hard disk? I didn't have a virus detector to check hard disks. I completely zeroed out a partition and re-installed *Publisher ST*. Tried to print. Blank page. @&%$#@# I considered smashing everything, but this equipment is so expensive I couldn't do that. Besides, I didn't know what component to smash!

What was the problem? I disconnected the 30Mb drive and the SLMC804 controller and the next day took both to my ST editor's house (Frank has a similar system). I replaced his controller with mine and tried printing with his *Publisher ST*. Worked fine. I replaced his hard drive with mine and tried printing with my *Publisher ST*. Worked fine. Good grief! Took everything home and put it all back together. Worked fine, but only for about an hour. Then, a quarter of the way through one of the pages, the toner stopped again. Once again, nothing I did could get that printer to print a *Publisher ST* file.

Out of desperation, I hooked up a 20Mb Supra that I had on a different ST. IT WORKED FINE! Could it be a virus on the 30Mb? If a virus were involved, I was perfectly willing to vote for the death penalty for the author! Oh, well, the issue had to get out, so once more, back to floppy transfer to move articles from the 30Mb to the 20Mb.

I called David Small to remind him his article was due and to see if he had any suggestions. He was out but Sandy was in. She suggested I give Doug Wheeler a call; he knew a lot about disk drives. I did. Doug suggested the 40-folder limit, but it couldn't have been that. He made a few other suggestions, but all of the obvious things had already been tried. Then he suggested I plug the hard drive into the computer and then plug the controller into the hard drive. Hmmmm. I hadn't tried that. The instructions on the controller say to plug the hard drive into the controller.

So, I plugged the 30Mb into the Mega and the controller into the hard drive (the 20Mb had no port on the back for a second DMA device.) Tried *Publisher ST*. It worked beautifully! Wow. Switched the connections back again, controller into computer and hard drive into controller. Tried *Publisher ST*. Blank page! Switched back once more. Printed Page! That was it!

Don't ask me why, I'm not a hardware type, but ever since I made that switch, everything has worked perfectly. (Glad I didn't smash anything.) It wasn't a virus after all. Maybe the 80Mb will even work (two solid hours of testing on a different system could find no problem with the 80Mb.) However, before I do any more experimenting, I think I will take a much needed break. Time for a vacation! Enjoy the summer everyone. We will see you again in September.

Joe Waters

Atari Introduces Full-Functional Color Entertainment System for Players On-The-Go

As the first firm to introduce video game systems to the consumer market, Atari has once again rocked the home entertainment industry. The company has introduced the **Atari Portable Color Entertainment System,** the world's first color portable, hand–held video game system.

The one–pound portable unit, slightly larger than a videocassette, is a complete traveling arcade. The system includes a 3.5–inch built–in color LCD monitor with a resolution of 160x102 pixels. The high–performance monitor displays dynamic graphics in up to 16 colors from a palette of 4,096 colors. For increased competition and multi–player challenges, players can use a connecting cable to link up to eight units together.

Priced under $150.00, the portable system offers the same key features that serious game players have come to expect from the computer, television and arcade versions of their video games. The Atari Portable Color Entertainment System (APCES) operates at 16 MHz (four times faster than competitive units), which ensures high–speed, high–powered graphics and outstanding performance.

Advanced Technology

One of the unique features of the system is the capability to provide each player with a first–person view of the action. For example, in one of the racing titles that will be introduced later this year, two or more players can participate. If the second car is approaching the lead car, the lead car becomes proportionally larger on the second player's screen. When the second car actually passes the first, the first car now sees the second car ahead of it. Each driver views the race track from the perspective of his or her car only.

The game system has 64K of RAM and operates on 6 "AA" batteries. It can also be powered with an AC adapter or a cigarette lighter adapter. Games are available on credit card–sized game cards that slip into the unit. The graphics, audio and animation enable users to experience the full effect of a larger video system in a portable unit. Special effects are enhanced by both the color monitor and four–channel sound.

The portable unit can be played anywhere and is small enough to be put in a backpack or briefcase. A headset jack is also provided so players can enjoy all of the sound effects without disturbing others.

The system is designed so that players do not have to sacrifice any of the features available on larger game systems. A full range of character movement controls, including an eight–way joypad that moves the main character in all directions, as well as two fire buttons and five function buttons are standard. The volume and contrast can also be adjusted. The images on the screen can be rotated 180 degrees, so that right- or left–handed people can test their skills.

Available Titles

A number of games are already available for the new Atari game system. One, *California Games,* is included in the purchase price and

Color and Portability-Atari introduces the world's first portable color video game system with high resolution, dramatic graphics.

five additional games are available. Each of the current titles, which have been developed by Epyx, Inc., require 1 Meg, but the hardware system can be used with games that require up to 16 Meg cards.

California Games––*California Games* provides a whirlwind tour of the Golden State. Players start in Hollywood, where they compete in a skateboard competition on the radical Half Pipe. Then, it's off to San Francisco, where they perform daredevil tricks with their high–flying Foot Bag. Next, the players head for the race track, where they kick up some dust on a BMX bike race. Finally, adventurers can Hang–Ten and show their skills at a surfing competition, where they rack up points as they master the waves. *California Games* can be played with one to four players and makes full use of the Atari system's color palette and enhanced control systems.

The five additional titles listed below are available at a suggested retail price of $34.99 each.

Blue Lighting––The player is suddenly behind the controls of the fastest fighter jet in the world and an onslaught of enemy fire must be dodged in order to reach the intended destination.

Time Quests & Treasure Chests––Players meet up with shady characters, pass through treacherous dungeons and even end up in outer space in search of the Star Gem, a stone that ensures eternal life.

The Gates of Zendocom–– Armed with a neutrino laser, photon bombs and a destructor shield, the player must find ways to covertly stop and refuel while being attacked by 50 different types of hostile aliens.

Impossible Mission––The Criminal Brain has kidnapped the President's daughter and it is up to the heroic player to rescue her. Along the way, there are explosive traps, electrified floors and hordes of criminal droids.

Monster Demolition––The player is suddenly transformed into an angry monster wreaking havoc across the country.

Software Development Aids

Atari designed several key features into their portable system which not only enhance the speed and graphics for the user, but also make it easier for developers to create dynamic and exciting games for the system. For example, the hardware will automatically change the size of a graphic display. If a game character is heading toward a mountain in a flying simulation, the system automatically scales the mountain to size. As the player approaches, the mountain becomes larger and larger. Once the player passes, the mountain becomes smaller.

Because this feature is built–in to the hardware, scaling is much smoother than less sophisticated systems. The graphics grow larger and smaller without the rough, bumpy look of less sophisticated graphics.

Availability, Dealer Support

"Dealers and consumers who have seen and tested the Atari Portable Color Entertainment System say it can't be compared to anything they've seen or tried before. It's definitely a quantum leap forward in innovation and establishes a totally new category of video game playing for people of all ages," commented Sam Tramiel.

Tramiel added that the company is already in production on the system and units will be delivered to dealers for the Fall selling season.

To support market introduction, the company will initially roll out a key market media advertising campaign. A complete dealer support program has also been developed that includes in–store demonstration displays and other point–of–sale materials. The Atari Portable Color Entertainmentn System will be available in August at a suggested retail price of under $150.00.

Atari Schedules 20 New Games for Delivery

Atari Corporation has announced that it will be shipping more than 20 new game cartridges between now and December 1989 for the Atari 2600, 7800, and XE video game systems.

Ron Stringari, president of Atari's Entertainment electronics Division, said that while Atari already has one of the industry's largest video game libraries, the new releases are part of the firm's commitment to continue to provide the easy–to–learn but hard–to–master game play that today's sophisticated consumers demand.

New Light Gun Option

Ron Stringari, president of Atari's Entertainment Electronics Division, said that a Light Gun option was added to the 2600 and 7800 in response to the consumer demands for more dynamic new games for the high–performance, economical systems. The light guns have a suggested retail price of $24.95.

7800 Games

In addition to the nine new titles that will be added to the dealers' shelves for the 7800, there are two new gun games (*Barnyard Blaster* and *Sentinel*) for the system's new Light Gun option.

According to dealer polls, the games that are scheduled for release represent some of the most

sought–after action on the market today. Titles include *Commando*, *Ikari Warrior* and *Xenophobe*. Activision has also announced the availability of their *Rampage* and *Double Dragon* games for the system. In addition to these new titles, Atari dealers will also be offering *Planet Smasher*, *Ninja Golf*, *Mat Mania Challenge*, *White Water Madness* and *Mean 18 Ultimate Golf*. Suggested retail prices range from $18 to $35.

2600 Games

The new 2600 titles include some of the games being released for the 7800. The new games, which include *Off the Wall*, *Road Runner*, *Radar Lock*, *Ikari Warrior*, *White Water Madness*, *Street Fight*, and *Motorodeo*, have a suggested retail price of $10 to $18. Activision has announced that *Rampage* and *Double Dragon* will be available for the Atari 2600.

Two new games, *Sentinel* and *Shooting Arcade*, have been added to the 2600 game library to take advantage of the new Light Gun option that was recently announced.

XE Games

Capable of handling the most complex games and producing exciting, animated graphics, the Atari XE is two systems in one. It's a powerful game system and an excellent computer for a beginner. There will be six new titles available for the system by the end of the year.

You can blast your way behind enemy lines in *Commando* and experience bone–crunching action in *Super Football*. In the addictive *Tower Toppler*, you'll face non–stop surprises as you attempt to save the planet. With *Xenophobe*, you'll experience incredible action as you challenge the best of science fiction. And for tension, excitement and suspense, there's *Midi Maze* and *Deflektor*. Atari XE game cartridges are priced from $20 to $35.

Atari Introduces New Calculator Line at Consumer Electronics Show

"Atari has been selling calculators for only two years," says Atari Consumer Products President David Harris. "But we have been able to reach a run rate of 1 million per year, a remarkable achievement. It is because these calculators are backed by a team of people who are all old hands in the calculator business. Jack Tramiel built Commodore on the basis of his calculator expertise. His first venture in the office–machine market was in calculators. I ran worldwide sales and marketing for Jack in the '70s. We know the calculator business."

The Atari line of calculators includes the Atari Credit–card size solar–powered ExecuCard calculators which let users do calculations on the fly, anywhere there's light. Value Line calculators are ideal for general use. Atari Specialty Calculators include two pocket scientific calculators. A Hand–Held Printing Calculator can go where the power doesn't, wherever a calculator printout is needed. A lightweight, Desktop Printing Calculator meets the needs of home–office users or people who need full–function figuring on the road. Four Electronic Data Banks are ideal for storing names, phone numbers, or other essential data.

Credit–card size Execucard calculators slip easily into a wallet or purse and offer percent and mark–up keys plus basic math functions. They feature a sensitive soft–touch keypad and oversize 8–digit LCD display with monetary punctuation and overflow indication. Their specialties include percentage, mark–up, mark–down and tax–added calculations. These calculators also offer a memory register.

Value Line calculators have 8–digit LCD readouts that tilt to the easiest viewing angle. They feature basic math plus percent, square root, and a memory register. There are two models: the pocket–size CC180 ($5.95) and the larger desktop–size CC181 ($7.95)

The **Atari S300 Programmable Scientific Calculator** ($11.95) features an 8–digit LCD display with a single memory register, 45 scientific and statistical functions, 15 levels of parentheses and algebraic operation. The **Atari S310 10–digit Scientific Calculator** ($9.95) offers 46 functions and a built–in statistical memory. Each includes batteries.

The **Atari DMP2002 Desktop Printing Calculator** ($34.95) handles addition, subtraction, multiplication and division with a selectable decimal point mode. It features a 10–digit liquid–crystal display, a rounding switch, percent key, margin up and down key, double 00 key, memory key, subtotal and total keys and a result–printing key. It operates from batteries or an optional 6 volt wall–socket adapter.

The **Atari DMP2000 Handheld Printing Calculator** ($24.95) performs addition, subtraction, multiplication and division. It features a selectable decimal point plus round–up, round–down and cut–off.

The **DB–2400 Auto Dialer Data Bank** ($29.95), with a 12–character display, can store up to 125 phone numbers and, when held agains a telephone mouthpiece, dial any selected number at a keystroke.

The **Atari DB–2100R Electronic Data Bank** ($17.95) and soft–touch Atari DB–2200 ($19.95) can each store up to 150 sets of data. Includes lithium battery.

The tiny **Model DB–2300 Electronic Data Bank** ($14.95) can store up to 50 phone numbers of 50 memos. It measures 2 3/8 x 3 1/2 x 3/8 inches.

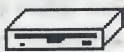*Atari Consumer Products, 8341 East Evans Rd, #106, Scottsdale, AZ 85260 (602) 483–1991.*

ST UPDATE
by
Frank Sommers

TOS/TT 1.4 Mystery, Dealer Frustrations, Real Hardware Release Dates

A Warehouse Full

It was a cloudy 16th of May at 2 P.M., as people began pouring into the side entrance of the Atari ware-house next to Headquarters. Amidst rumors that someone was making a run at Atari, in a hostile takeover (all sound and no substance; Atari controls, either directly or by proxy about 80% of the 57 million shares of stock), an international looking crowd gathered in the attractive meeting room for Atari's annual stockholders' session. Not one to drag out any kind of question–and–answer session, President Sam had the whole thing, including demo's, wrapped up in an hour. The crowd gathered in a positive vein and left in the same air.

What did they learn? Well, at long last, Atari was in a class with IBM, if but a sub–category. Only two U.S. computer companies had a decrease in their annual sales. Compaq increased their sales by 10%. Apple up 2%, IBM down 20%, and Atari down .02%. In top ten rating terms, i.e. number of units sold, Atari was now the fifth largest personal computer company in the U.S., preceded by Apple #1, IBM #2, Commodore #3, Tandy #4 and Compaq #6, though the latter's total dollar sales are many times higher than Atari's.

And what else was garnered from conversations among the assembled? Atari reportedly sold 400,000 machines last year, includ-ing the XE's, but only about 10% of that was in the U.S. Atari was mak-ing inroads in the business market, particularly in banks in Illinois and in law offices in Chicago. Stock hold-ers and dealers attending the meet-ing got the distinct impression that even though Sam continues to chant the Atari–US–89 song, he, his father and his brothers view the U.S.

as a hostile market. It is almost as though the lack of a base of Atari machines in this country, which developers would be eager to write for, was the customers' fault. Europe likes Atari, so Atari spent $32 million on advertising there last year. The U.S. is critical of Atari, so it got less than 10% of that for ads.

Atari's marketing strategy appears curiously tinged with this "aversion." No big money is planned for ad campaigns in the U.S., with the exception of the new Atari Color Portable Entertainment System, the hand held game machine, and the midi–music mar-ket, until there is a broad dealer base and customers have demon-strated they wish to buy Atari machines.

Right now, Atari is limiting its U.S. ad monies for the Year of Atari in the U.S. to $930,000 a quarter. Like $300,000 a month for the entire U.S. That sum will go for limited CNN TV ads in certain areas, but the vast majority of it will be for print advertisements. Word has it that co–op ads by dealers and Atari in the Bay area of San Francisco floundered because Atari tried its old "Business is War" trick on the San Francisco Chronical. When the Chronical quoted them the cost for Atari's specified ad schedule, Atari purportedly said, "Fine, but less 25%." With that the San Francisco Chronical bid Atari a polite adieu.

Thus, apparently, Atari wants to see a sizeable spurt in its U.S. business before it will spend money to increase its U.S. sales. Most mar-keting consultants would say, "Watch out!" suggesting that Atari's got the capsule on the wrong end of the rocket.

Is Jack Gone?

Behind the scenes, rumors hold that Father Jack Tramiel has turned

over the company to his sons. He wants them to use it to succeed or fail. Though still chairman, he has instructed son Sam to make "all" the decisions, even though he, Jack, may "occasionally" drop in on executive management sessions. But Sam is "the sole spokesman." Anybody in Atari wishing to test that premise, purportedly, will not have an office by the time they return to headquarters "after speaking out." Oh, for the days of good ole Neil Harris, not always right, but always forthcoming.

One dealer opined that the boys aren't all that concerned about what happens to Atari in the US. Europe is booming. Even with the Federa-ted "Cash Hog" in their backyard, Atari showed a profit. As soon as Gary Tramiel and Greg Platt execute their current responsibility and "un-load" Federated, profits will be even higher. The sons are now all mil-lionaires in their own right, and not dependant on Atari for their liveli-hood. Yes, of course, they would like to make Atari succeed in the US, but that's up to the buyers not up to Atari! After all, Atari stock is up 25% to 8 1/2, largely as a result of the hype given the Portfolio.

A Good Idea Squelched

Murmurs inside Atari suggest that Sam Tramiel thought it would be a good idea to harvest a little more cash out of the SLM 804, which returns a good piece of change to Atari for each one sold. Idea––figure a way to sell more of them. Al, Atari's own developer of the laser, clearly one of their best products, came back to Sam in less than three days with a mother-board ready and able to run the SLM 804 on IBM and IBM clones. In a pique, announcing that Atari was not in business to advance the IBM, Sam shelved the idea. Not only

would it have been a money maker, we submit, but it could have merged, at least partially, Atari's identity with Big Blue machines. Something no amount of other advertising could accomplish. And imagine another cartridge which would let the Macintosh run on an 804. Oh, well.

In Atari, England, rumor has it that people announce the reason they are so much more profitable than Atari, US, is because they have no Tramiels there. The PAS (Personality Assessment Statement) on the head of Atari in America is condensed to, "stubborn, chip on shoulder from father, and won't listen to new suggestions." The latter is said to be the most crippling factor.

Upgrades

WordPerfect is indeed re-instituting support for the ST. Apparently, a decision was made that it could be profitable to bring back both the Amiga and ST development groups, in reduced size, with the object of having a version 4.2 of *WordPerfect*, done by the four-man combined group with a port to the other machine. No date is in sight but planning and initial scheduling of programming and documentation is in train. The big decision of whether to do a 4.2 upgrade or leap frog to 5.0 is yet to be made. This leaves open the question of what version of *WordPerfect* the TT would run on. The current version, yes, but in the Unix mode might there not be a 5.0 version. Or you might say, who cares, with *pc-ditto II* you can run the 5.0 version with all its bells just as it exists for the IBM, right now.

There are also whispers about an upgrade of Timeworks' *Publisher ST* being done by GST in England. The company here is uninformed about this and it may be that GST will release the update thru someone other than Timeworks.

The Ides of June

Shortly after you read this, Sam promised you'd be seeing all the products announced and available at Comdex on your dealer's shelves. So let's take a peek at how his "promises" are coming out. Let's put all the things you saw at Comdex into a hat. The STacey, the Portfolio, the Mega44 drive, the Modems, etc. Shake the hat and which of them will fall out onto shelves by 15 June?

The only candidate that might miss by less than two months would be the one that isn't yet manufactured by Atari, the Portfolio handheld computer. Atari expects it to be an instant success. They foresee that each executive will have one on his desk. They plan to mass market it, possibly letting the dealers have it available as a "dealer exclusive" for two months when it comes out, and before they open it up to all the other stores, like 47th Street Photo in NYC. By the way, the operating system of the Portfolio is an MS\DOS 2.11 clone. The CPU is a low power consumption CMOS 80c88 with a clock speed of 4.9 MHz. The 256K of ROM will include, besides the operating system, a Lotus 1-2-3 compatible spreadsheet, a time manager, address/phone book, text processor, calendar and communications software. The 40 character, 8-line LCD screen will have software controllable contrast. Resolution will be a humble 240 x 64. Powered by 3 AA cells, it provides 6-8 weeks of normal use before requiring a battery change. Add on's will eventually include up to 640K of memory, battery-sustained RAM cards, up to 128K used as a removable storage medium, with a PC disk drive and communications interface as well as other applications on RAM cards.

Samsung Saga & Lost Files

Somewhere between 40% to 50% of the Samsung monitors Atari began delivering with their computers last year have ended up back at the dealer. For the customer, that is the end of the first round of frustration. For the dealer, only the beginning. Imagine if you had sold 40 or 50 ST's during this period and suddenly found 20 or 30 of the monitors back on your doorstep begging for instant repair. Dealers report that in the initial period, Atari was unresponsive. They directed that, per repair contracts, the dealer repair the monitors, and then when the dealer discerned where the problem lay, (roughly speaking, a $2 part), Atari denied such a part was available. When the dealer finally volcanoed up enough rage to say he was sending all the monitors back to Atari for repair, they quickly asserted, "no responsibility." Thus it went for over a year until Atari switched back to the more reliable, if minimally more expensive, Gold-Star monitor. Such is the lot of the concerned Atari dealer, i.e. such errors in hardware procurement happen all too often. It is only with the Atari and the Pentagon that they mushroom into a disaster cloud because of a chronic reluctance to admit mistakes.

At least two dealers have noted that part of their boiler room frustration was caused by Atari reporting "errors" in previous year payments or use of ad credits. Read, "your books don't balance with our books." Calls, letters, consultations to work out the often multi-thousand-dollar discrepancies were too often met with, "He's no longer here, so we don't know what understanding you had about......" Which side was right and which was wrong seems to have been lost in a blizzard of personnel changes and records, redirected and misplaced. When Atari chose to acknowledge some error by "splitting the difference," the dealer reacted with umbrage to a returned invoice that showed he still owed 50% more than he had computed.

Latest Timing

It is difficult to read Atari's lips about delivery dates. They often say one thing and the consumer "sees" another. Atari now says the handheld, IBM-compatible Portfolio will be out by 1 July. But interestingly enough, as of this writing they still weren't taking orders for it. Due to a

production line error, reportedly, the first 500 off the line had to be recalled and put right manually.

The STacey laptop, they have revised to 15 August, and the TT 32-bit machine, they have told dealers will be out in the last quarter.

Our crystal ball's calendar has deferent dates. Expect Portfolio on dealer shelves in limited number by 1 August. The STacey likely won't make the scene until 15 November. And the TT ... see below.

Only Atari?

And you might ask, "Is only Atari chronically late?" The answer is, if you drop the "chronically," no. *pc-ditto II* is two months late, and Avant-Garde, as many of you know, is a paragon of on-time delivery with a product that does everything as advertised. But Bill Teal points out that anybody who has tried to coordinate sub-supplier deliveries will recognize the problem. Trying to get the makers of all the various pieces to deliver at the same time is always frustrating. Coupons, for those of you who sent in your warranty cards for *pc-ditto I*? Teal will mail them out as soon as he knows he will definitely be in receipt of product in time to respond to those people who return their coupons for the 50% reduction along with money. He does not want any hint of sitting on anybody's money. Expect your coupons in early July and *pc-ditto II* by 1 August.

WordPerfect had its update proclaimed as "there" two months ago. The last word from the ST Lone Ranger, James Marshburn, at Word Perfect, who has been hatching the update was, "The bugs are finally out of it; it's in 'Testing' and basically up to them when it will be shipped." Barring a new unexpected glitch, it should also be available in early July at the latest.

Even the wizard of Macintosh programming, David Small, has been delaying the appearance of his GCR cartridge. It will let your ST do almost everything a Mac will do but

faster and using original Mac disks. It, too, is behind the diurnal release clock. His last word was 15 August. Ours is 30 days later.

Lastly, you have Bill Yerger of Micro World in the San Francisco area who has arranged to sell the first fax machine for the ST and the Mega, at a $1495 list. Scheduled to ship three months ago, the first ones arrived at the end of June.

Makes you think all these people did what the Italian decorator lady did last month, i.e. emerge from being buried in a capsule underground for four months and announce the date, only to find she thought it was 15 March when it was 5 June.

Moniterm Saga

The big 18" ST monitor from Moniterm in Minnesota is shipping. Remember, Moniterm is the company that said it has to sell 1,000 units a year of the new ST monitor before it will consider supporting any other product for the ST. But suddenly it turns out that the monitor will not run without Atari's yet-to-be released TOS 1.4, the one that Atari announced at the last Comdex would be in all machines from that day henceforth, or Atari would replace it free of charge. A frantic call by the dealer to Atari received the response from Len Tramiel that the dealer should call Moniterm for TOS 1.4. Moniterm, in turn, replied that if they gave out any Atari owned information, including TOS 1.4, they would be liable for a contract violation and a penalty fee of $1.7 million. There was a suggestion that Moniterm might stop all production until the TOS 1.4 riddle was solved.

Tid Bytes

New ROM On The Block--A gentleman named James McQue has built a better BIOS, one for the Spectre 128 cartridge. At $50 a set his ROM's for the Spectre are $50-$100 cheaper than Macintosh's. Reportedly, he gets extra sound channels and fewer software in-

compatibilities. Apple will likely bring suit or an injunction to keep it off the market. The March issue of Byte Magazine states that Dave Small's Macintosh emulation is the only legal one in the U.S.; it can't be contested. There is word that Mitsu-bishi and Compaq have Mac clones a coming.

The Price Is Down--One mega byte Dram chips are down to $13.50 and the CMOS one mega chips that require less power and are cooler are also down to $23 a piece. **A New Genlock**--In two months for $1,250. **Mega 44**--The Atari removable hard drive and backup device will only be sold in Europe. **Atari's AT**--Will use VGA graphics. **Amiga Color On The ST & TT**--JRI's 4096C color board, that retails for $99 with the shifter chip and brings you all the colors of the Amiga and lets you save IFF files directly from the Amiga, is the same board Atari will be using in the TT. **Fleet Street Publisher**--A "deluxe" upgrade is now out, which lets you use it with UltraScript. The big upgrade, which includes wrap around text and the ability to print more than one page, will be out by 1 August. **Networking**--"Bionet" from Germany is here; a $700 Ethernet board, it plugs into your ST and allows you to connect to Novelle or other networking systems, so look for it and ST's in schools for starters.

The TT/TOS 1.4 Mystery

And what about the exciting new machine, the TT and TOS 1.4? Many of us have wondered what happened. The new TOS, the one after the Mega's, was out there in beta format on disk, and then burned into ROM's several months ago. Then it was "being debugged," and also part of the problem was "an incompatibility with the TT." Well, where are we, and where is it? There's a story that the "final version" of the new TOS is here, or rather is in production and being stockpiled until the last version is used up. Rather than garbage can

thousands of sets of the ROM's used in the Mega's, Atari has elected to use them up before commencing to issue the new TOS.

Aristotilian logic has it that any problem is solvable if you put the "givens" or evidence together correctly. So let us, as they say, reason together. First the "givens," without specifying exactly who the "givers" were. To port over a program or a system, say UNIX, experienced developers say it takes a minimum of 3 man years. Atari has shipped 100 TT's to developers somewhere. The TT will be released with 10 or more programs that will run on it, i.e. on the UNIX system, since the TOS system will run "everything" that runs on the ST or Mega. Atari has been out as recently as May trying to sign up UNIX developers. No US developers, as of now, have received TT developer machines. The code in TOS 1.4 indicates it was written for a higher end machine and then brought down to the TOS level. TOS 1.4 still has certain incompatibilities with the TT. The rumor that TOS 1.4 is ready and Atari is waiting to introduce until they have sold/used up all of the Mega TOS chips is a leak, which may have come from somewhere inside Atari. Developers have been told not to use the beta version of TOS 1.4, as it now exists, as a final measurement for new products they may be developing.

How would Aristotle put all that together?

Atari will show the TT at the November Comdex. It will not be ready for sale then. TOS 1.4 will undergo modification right up until Comdex. The packages that will be introduced as running on the TT with the UNIX "box" will be largely American productivity software, and there will be problems running it. The TT will not go on sale in America for six more months or more. And finally, what does Aristotle say about the 100 or so developer machines? (There is a free year's subscription to CN for the first US developer to call us and say he has one of them.) Aristotle says

simply, "That data does not compute."

But despite the delay, it does sound like an exciting machine. With power similar to a Mac II it will run all three resolutions that you currently have on the ST and Mega's, plus two more in color and one more in monochrome. The color resolution will be 620 x 340 without even adding the graphics card, just a bit under what your high resolution monochrome monitor gives you now and the equivalent of a color TV screen. The mono resolution will be 1280 by 960 and color and mono can be run off one multi-sync monitor. Digitized sound will be built in. Of course it will run all the software that the ST now runs and Atari pledges to have 12 major software packages that will use all of the TT's 32-bit pizazz and resolution ready by the time it hits the store. No price info is forthcoming from Sam. But let us hope that it will be in the range of 1/2 the cost of the Mac II. Anything higher and the 200 plus existing Mega dealers, of a total of 600 Atari dealers, may have trouble getting you to take one home.

London's Latest

Populous, is the current European winner in the arcade-strategy-adventure game series (see Milt Creighton's depiction of Atari in London). Imports of the game are already arriving on the east coast. The packages bear the Electronic Arts label. EA will start marketing it in early August. Two hand held scanners are attention getters in London. Kempton's DATASCAN (about $365) has a resolution of 200 DPI with 16 half-tones. Colibra, on the other hand, sells for about $865 but scans up to 400 DPI with up to 32 gray levels. It comes with an optical character program. Signa Publishing System of London is distributing it.

In the US however, Migraph, the distrubtor of *Touch-Up*, has started selling a hand scanner for the ST's and the Mega's. It has four different scan resolutions, 100, 200, 300, and 400 dots per inch. It also has a

contrast dial to adjust the brightness, and four dither settings, but no OCR. Price is $429.

Billed as the most powerful word processor for the ST, *Protext* is emigrating from England to the US. With all of the normal functions, dictionary and spell checker, WYSIWIG, two documents in memory with the ability to copy text between the two, plus mail merge, it appears to be a professional word-processor. If bug free, it may be a friend and a contender. Michtron plans to ship it in July. Another import that may stand out is *Colossus Chess*, which "actually thinks and learns for itself" i.e. it generates its own knowledge book.

World of Atari

By now the Dearborn, Michigan WOA show will have been held. There were high hopes from north, south, west and east, that Atari would startle the attendees and show up with "a surprise." There was little chance that would happen. Dearborn would be bigger, by virtue of the fact that Atari's booth would be somewhat bigger than it was at the other Michigan show in May. But there is no reason to believe this will dent the enthusiasm of those that made the show possible and a signal success.

Promoting DTP

Atari has been looking for its US market slot. It has found an unparalleled notch in the midi-music market. It hopes that the TT will find its work stations in government offices, despite the simple fact that to be there you must have nearby "instant" service facilities of a proven quality, or your "bid for the contract" goes almost unopened. But in addition to having one of the best computers available, Atari is suddenly learning that in the DTP market it might be a winner. Since it refuses to advertise nationally, why not a DTP Atari users' ad contest? It's theme should be, "What Sets The Atari Apart From Other Computers? Why Does It Stand Out So?"

XE/XL Update

by

Len Poggiali

Letters! Letters! Letters!

After my "gloom and doom" column in the May issue, I was pleased and touched by the written responses I received.

Stanley Beville of Ft. Meade, Maryland shared his disappointment at Atari's failure to support its XEP80-column adaptor. "It seems that we will have to depend upon the efforts of third party developers such as Micromiser Software (developers of *TurboWord*) to provide us with anything useful for this nifty little 80-column attachment," Mr. Beville stated.

He also volunteered to write a review of *TurboWord+* (it appears in this issue). According to Stanley, "The update, *TurboWord+*, corrects some bugs and annoyances--such as the lack of double spacing--in the first release."

Lastly, Stan included a listing of software he would like to see converted to the Atari 8-bits. What follows are his descriptions.

- *Gunship* from MicroProse. This super simulator would surely be an instant hit on the Atari.
- *Mavis Beacon Teaches Typing* from Electronic Arts. One of the best typing tutors around.
- *Tetris* from Spectrum Holobyte, Inc. Deceptively simple in concept, yet very addictive and a real mental challenge.
- *Batalla de Palabras* from Gessler Educational Software. Spanish tutor. French and German versions are also available.
- *Designasaurus* from Designware. Makes learning about dinosaurs fun.

A reader from the Baltimore area--who wished to remain anonymous--lamented the lack of "...new and innovative software..." and "...the continued availability of the best of the old software."

Recently, he purchased two Ataris for his nieces who live in the tropics. There the computers function quite well, considering the "...adverse conditions of fluctuating power, high humidity and even higher temperatures." Unfortunately, our reader cannot acquire "legal" copies of *SynCalc*, *SynFile* and *PaperClip* to send his nieces. He absolutely (and admirably) refuses to give them copies of his own versions. If anyone has advice for our reader, please drop me a line, and I will get back to him.

A third correspondent--Tim Fullerton of Triangle, Virginia--agreed with my grim evaluation of the situation. While praising the 8-bits, his word processor *(AtariWriter+)*, Atari user groups, and the quality of Atari PD software, he was reluctant to purchase further hardware for his system.

A few weeks after receiving his letter, I gave Tim a call. Imagine my surprise (and pleasure) when he told me that he had just purchased (used) two Atari 800s, a Happy drive, a color monitor, and loads of other hardware and software for an unbeatable price. Ironically, these items were advertised in the very same issue in which I tearfully pleaded for continued reader support. Two conclusions: 1) There is a God; 2) 8-bitters are splendid people.

Tim also made my day by submitting one of his programs for our "Small Miracles" column. It is no secret that our miracles have been old miracles--mostly ancient (but very fine) programs from a variety of sources, donated from the extensive collection of CN contributor, Joseph Russek.

Naturally, we would like to print new material rather than reprint oldies. If others have little gems of their own that they would like to see in CN, please send them to me on disk. Also, please include any necessary documentation and descriptions on a word processor file. No hard copy is necessary.

My thanks to Dane Stegman of Akron (near Buffalo), New York for information on the availability of the XE Light Gun in his area. According to Dane, he purchased a gun along with the *Bug Hunt* cart in his local computer store for $27.95.

Dane was hoping that Atari would publish more games for the pistol. Recently, I received copies of *Crime Buster* and *Crossbow*, both light gun compatible. The former is reminiscent of Nintendo's *Hogan's Alley* (my kids tell me this one is better). The latter is a very accurate translation of the popular coin-op of the same name. Look for reviews of both in upcoming issues.

Bill Barry of Tampa, Florida considers the MS-DOS machines to be more "capable" for business usage than Ataris. However, "...as a home unit, to use, enjoy, and do what a non-commercial environment demands (write a few letters, have the homework look good, crank out newsletters and flyers--then maybe enjoy some games), the Ataris get top billing!"

Mr. Barry would like to see ICD's *Writer's Tool* word processor reintroduced on a bank-switched super cartridge. "I, for one, would like to have a capable word processor that comes right up on the screen as soon as I hit the On switch. Use of a drive could be made optional, for program storage. This 'super AtariWriter' might even catch the fancy of those with the new game system, who don't have drives."

Other older applications software Bill would like to see for sale include Synapse's *SynCalc* and *SynFile* and Batteries Included's *B-*

Graph and *Hometerm*. "A nice 'port' would be *AppleWorks*. My hat's off to you if you can arrange it!" If only I had that kind of power.

"I feel there are still many reasons to use and enjoy one's XL or XE," Robert D. Shutts of Joliet, Illinois stated in still another recent letter. Among Mr. Shutts' reasons are that Atari owners (unlike owners of orphan computers) still can buy software from retailers.

"Second, Robert continues, "we are getting some new software support. I purchased *Diamond GOS* and I love it. The desktop functions smoothly, albeit a little slowly. *Diamond Paint* needs a little work, as do the manuals, but future revisions should cure the bugs."

Mr. Shutts' third point is that the 8-bits are excellent for home use--playing games, keeping records, keeping books, and writing letters.

"Finally, what about those...C-64 and Apple 8-bit machines? And what about that ton of new software that comes out for them every month? My answer: Look more closely at that 'new' software. Many of those 'new' titles look like reworks of prior issues--especially the games. As for applications, I've had the misfortune of helping a friend set up a business database on a Commodore 128. Loading time and disk access don't match up to the speed of the Atari. As for Apple, have you seen those prices?"

A joystick mouse (called MOUSE) is the subject of Chicago resident David Lefly's letter. MOUSE "...is distributed by Horizon Computers and lists for $59.95. Horizon was very friendly when I called; they gave me the name of a local dealer who would order it, and I had one a week later for $49.95. You can order direct from them (Horizon) too, but I don't know which price you'd get."

"It is a quality joystick that looks and works like a 'real' two-button mouse," David continues. "Within joystick limits, it works very well indeed. Construction is not indestructible but solid--midway between a Tac-5 and a Gravis, which is good enough--and the ball comes out for cleaning. The cable is only two-feet long; southpaws will need an extension cable unless they're running an 800. It weighs eight ounces; another eight ounces ballast would make it better for me; that's my taste in mice. It costs too much. But I think anyone who uses a conventional joystick with the *First XLent Word Processor* or a paint program would find this a worthwhile investment. The improvement in responsiveness and fine control is dramatic! I would like to see Atari market it with a better price, heavier base plate, and a longer cable."

For further information, contact Horizon Computers, 695 S. Colorado Boulevard #10, Denver CO 80222, (303) 777-8080.

Finally, I was pleased to read that two CN readers, John Frick and Robert Burns, came to the aid of Sgt. James Kushima. As you may remember, Sgt. Kushima was having trouble getting his NX-10 printer to work with his PR Connection and 130XE. Thanks to John and Bob, that problem has been solved.

Sgt. Kushima sent me the printer settings. I am including the settings for those who may encounter the same problems. They are SW1: 1,2,5,6,7 ON; SW2: 1,2,3,4 ON; the rest are OFF.

I want to thank all respondents for the time they took out of their busy days to express their genuine support for the Atari 8-bits and for *Current Notes*.

AtariWriter 80

When I opened the large envelope that had been wedged between my front and screen doors, the last thing in the world I expected to see was the familiar gray, red, and white Atari box with the photo of the typewriter, dictionary, and address book residing in the black wastepaper basket. Even more surprising was the fact that this was not a free copy of AtariWriter+. Instead, it was a product I seriously doubted living long enough to see--Atari's 80-column word processor, compatible with the company's XEP80-column adaptor.

AtariWriter 80 features both 48K and 130XE versions as well as a 30,000-word spell-checker, mail merge capabilities, and a custom printer driver creator. Printer output is allowed to serial port or XEP80 parallel port. Files from most Atari-compatible word processors can be converted to the new format quite easily. Operating the program requires the XEP80 and a composite monitor, preferably monochrome.

Not only is the packaging similar to that of *AtariWriter+*, but the documentation and commands look nearly identical. Also the same is Atari's reliance on DOS 2.5. The program's merits and demerits will be the focus of an upcoming review. Whether it is good enough to help sell significantly more XEP80s remains to be seen.

Trouble in Diamond Land

According to Alan Reeve, president of Reeve Software, his company has parted ways with Shelly Merrill's USA Media. Merrill's company no longer will be distributing Reeve's DIAMOND products. Instead, persons interested in obtaining these items must do so by contacting Reeve Software. Any problem with orders previously made from USA Media will not be handled by Reeve but must be directed to USA instead.

For $79.95 plus $2.50 shipping, buyers will receive the following: the ST-like desktop and OS (on cartridge), *Diamond Paint*, a developers' package, three manuals, and two disks containing the paint program and all necessary utilities. Reeve assured me that *Diamond Write*, a full-featured word processor, will be available by the time you read this for an additional $29.95.

To order DIAMOND products, contact Reeve Software at 29 W 150, Old Farm Lane, Warrenville, IL 60555. Alan will ship C.O.D. if you wish to call (312) 393-2317.

SUMMER CES '89
Atari Steals the Spotlight!
by Kirk Osterman

Surprise

I walked into this years' CES not expecting any major announcements from Atari and thinking to myself I would be lucky to find something new that would catch my eye. After all, there had been NO rumors floating around and this being a consumer electronics show and not really a computer show, I was expecting the usual wall of 2600's starring at me at the Atari display. Actually, this IS how it started. I went over to the Atari display and there were 2600's and 7800's and XEGS's and nothing really new. Then I wandered over to the Nintendo display, which incidentally was several times larger than Atari's, and saw their new prodigy the "Game Boy." This was a complete Nintendo type system with a black and white screen in about the size of a Walkman. People and reporters were falling all over themselves to catch a glimpse of this new electronic wizardry.

The New Machine

It was at about this point that I thought, "Oh well, Atari missed the boat again" and decided to go back to the press room. When I got there I was greeted by a new stack of press kits by Atari announcing that they were unveiling a remarkable new gadget of their own. I flew down the hall and up the stairs, managing only to knock a few people to the ground, and arrived there just in time to miss the first showing. Not to worry, I patiently waited for the next showing... And there it was.... The Atari Portable, Color Entertainment System (that's its name, believe it or not!). It's a hand held unit about the size of a VCR tape with a built-in 8 direction joypad on one side, a set of four buttons for control and firing on the other, and a 3 1/2 inch COLOR screen in the middle. It runs on a 16 MHZ (not a typo) 65c02 microprocessor, has a pallet of 4096 colors of which 16 may be used simultaneously, has 64k of RAM, and can accept cartridges the size of credit cards with a maximum capacity of 2 megabytes. And that's not all, on the back is a communications link

> .....Sam was immediately escorted out of the Nintendo display....

so that up to 8 of these machines can be linked together for simultaneous playing, as well as a jack for head phones for private listening to its four channel sound. As far as the graphics are concerned, there are times I have wished that my 19" color TV looked as good as this new little gizmo. All this for a suggested price of $149.

Blowing Away Nintendo

An interesting rumor floating around at the show was that Sam Tramiel walked over to the giant Nintendo display and stood next to the Game Boy exhibit with his portable color system. After attracting a sizable crowd, comments like, "Wow, this really blows the Game Boy out of the water!" were overheard from onlookers by the Nintendo people, which prompted both Sam and the portable color system to be immediately escorted out of the Nintendo display. Oh well, it's not like the Nintendo people didn't get a chance to look at the unit because other reports are that a number of Nintendo reps were at the Atari booth taking plenty of notes.

I can't help but think that this is a radical departure for Atari in that not so much as a hint of this new system was leaked prior to the public unveiling . Not only that, but the units at the show appeared to be production quality and not simply mock-ups or prototypes. If there was any indication that these units were not ready to ship it was the fact that only the Atari name and logo were on the system, and not the name of the system itself. The game comes with one title called California Games; an additional five titles were being shown at CES. It is interesting to note that not only were all six of these titles created by Epyx, but that the custom graphics chips inside this portable game were designed by them too. Expect to see this system on store shelves by September, just in time to be a blockbuster for the Christmas trade.

With all the excitement over Atari's new hand held game, you might get the impression that was it. Guess again! Not one, but several, of the hand held PC's were at the show and not sitting in glass cases. Quite a few Atari reps had the Portfolio in their jacket pocket and were more than willing to show them off, even though there was no specific display on the floor for them. In fact, Atari was not even distributing any literature about the Portfolio since the CES was to spotlight the Entertainment and Consumer divisions of Atari and not the Computer division. Anyway, if what they said is correct, then by the time you read this article the Portfolios will be on store shelves.

Also at Atari's booth was a display of an IBM AT compatible

computer. This system, called the ABC 286/30, has an 8 MHZ 80286, 30 megabyte hard disk, 3 1/2" floppy disk, EGA graphics, and will be bundled with the Microsoft Windows interface and four applications including Windows Write and Windows Paint. Although this system is packaged with a windowing interface and applications, it is interesting to note that it is not bundled with a mouse. No specific release date was given, but they said they are just waiting for FCC approval (gee, where have we heard this before?).

Atari Fax Machine?

And finally, as I said at the start of the article, there were plenty of the trusty stand–by systems on display at the Atari booth with many new titles awaiting release. XE(GS) owners can look forward to a version of *Tower Toppler*, *Air Ball*, *Xenophobe*, and *Midi Maze*. There was also the full line of Atari brand calculators being shown by the Atari Consumer division with rumors that the Consumer division would soon expand past calculators into other office equipment. Although inquiry into just what these new items might be was met with a wink and a smile, one might guess that Atari brand phones or fax machines might be right around the corner since nearly everyone else at the show seemed to be marketing these items.

Lucas Films

Outside the Atari booth were a few STs running some new titles, but to be honest, not as many as in past years. One of these titles, well actually two, was *Indiana Jones, the Last Crusade*. I say two titles because there were actually two different versions of the game. The first is an action arcade type game, the other is a graphic adventure. Both of these games are from Lucas Films/Electronic Arts and should be available by late summer.

If board games are more your style then you'll be happy to hear that Avalon Hill had two new games

for the ST, modeled after two of their war games. Also, *Scrabble, Monopoly, Risk,* and *Clue Master Detective* are on their way for the ST from Mastertronics.

Leisure Suit Larry fans will be glad to know that *'eisure Suit Larry III* was being shown. In this installment, the player switches roles between Larry and his counterpart, Passionate Patty.

Spectrum Holobyte, the people that brought us *Falcon*, was showing *Vette* which looks like a very sophisticated driving simulation which allows the user to race down the streets of San Francisco. Another title which was not actually on display but which I managed to get a sneak preview of was *Tank*. Both of these games looked really sharp. Also due for release from Spectrum Holobyte are scenery disks for *Falcon*. These add on disks are said to be more than just new

scenarios, but actually add greater realism to the simulator and include such new targets as amphibious assault crafts.

For the arcade gamer, Taito was showing *Qix, Arkanoid II,* and *Rambo III* all of which are scheduled to be available by the time you read this.

And finally, a 3–D pool game and *Xenophobe* have been announced by Medalist International to be available by August for the ST.

Well, that wraps up yet another CES. All in all I would have to say this was one of the more exciting shows in the past few years due mainly to the surprise introduction of Atari's new portable game. I hope Atari can keep its promise of delivering 150,000 of these units during the Christmas selling season because it would give them just the boost they need after the beating they took with the Federated deal.

There and Back Again
by Robert Millard

CES: The Chicago (Big) Blues

Descending upon O'Hare Airport with Chicago's superstructure lakefront well behind, I experienced 3-D, wire-frame deja vu. *Flight Simulator 2* had brought me this very way before. As the cab ride downtown wound through art deco architecture and the cradle of urban blues, a tentative headline for this column wrapped itself around my mind: *Neo-gonzo gamer at CES-- Fear and Loathing in Chicago.* That's my *fear* of the industry's *loathing* for anything ST. Actually, if it weren't for the propinquitous promise of Bill Teal's *pc-ditto 2*--AT speed and XT compatibility, with 64K EGA support later this year---I wouldn't have made the trip. The Summer Consumer Electronics Show at the McCormick Center was sure to be dominated by the IBM and Nintendo juggernauts. Atari's floor space would be dedicated to the video game machines, a genus of scavengers that picks over whatever the predatory NES leaves behind. I didn't expect to see a lot of ST software, much less ST role-playing games. In this frame of mind, I scheduled a day and a half for the show.

Big mistake. While large screen EGA monitors did dominate the computer floor space, I could have easily been busy all four days of the event. Granted, some of what I have to report depends on *pc-ditto 2's* powers of reincarnation, but there are enough ST fantasy titles coming to keep this column going well into next year. So, as they say at trade shows--let's walk the floor.

A feeling of being a stranger in a strange land was assuaged at my first stop. Sierra's booth featured an ST hooked up to the magnificent Roland MT-32 sound module. The Roland soundtracks for *King's Quest IV, Space Quest III, and Police Quest II* were awesome and then some. A promotional video running next to the ST won my unofficial award for most original visuals. One segment showed programmer Corey Cole swiveling away from his work station, after which a green troll's claw extends from under his desk and swaps disks in the machine. A menacing voice turns Corey back around, but, with a puff of smoke, he is vanquished into (I assume) the netherworld.

ST Gamers' Friend

All of this leads into footage of Corey's upcoming game *Hero's Quest* - subtitled, *So you want to be a hero?* I mentioned this game last month, but it appears to have more role-playing elements than I indicated. Character classes, magic, combat and hit points are all employed. One screen displayed an unusual monster - an animated house with 'Imperial Walker' legs (BattleTech by Ryland?) confronting the lone hero. I'll have more on the game in future columns. Corey Cole has been a valuable presence on GEnie and a real friend of the ST and its gamers. His messages are always worth reading.

Monster Graphics

SSI's space was nestled like a small colony on the outskirts of the Electronic Arts' land map. *Curse of the Azure Bonds* was being run on an EGA monitor. Monster graphics are superb, combat results are faster, and that excruciating installation procedure seems to have been eliminated. Otherwise, it appears to use a lot of the same code as *Pool of Radiance*. An interesting turn of the screw might find ST gamers playing *Azure Bonds* with *pc-ditto 2*

before U.S. Gold finishes the ST version of *Pool*. Linda Blanchard is Marketing Communications Supervisor for SSI; it was nice to meet my first software and support "connection" in person, especially since she bore great news. The AD&D action adventure *Hillsfar* is being converted for the ST by Westwood! This conversion house makes magic; even average games are rendered enjoyable by superb art, minimal code swaps, and well-mannered interfaces. I'll update this one's development every month.

MicroProse, soon to adopt the litigiously inspired name MicroPlay, imported their pitchman par excellence and vice president of European operations, Stewart Bell. This chap, a cross between Robin Williams and David Niven, was a show unto himself. He carried a seemingly bottomless duffle bag of ST products, mostly of the arcade variety. With smooth, lenitive language, he drew viewers into a game screen. But as one of his favorite features popped up, Stewart would do a 360 in his swivel chair, beat on a phantom drum kit, or punctuate the event with an impressive array of onomatopoeia. "Are you sure this guy didn't have a sound chip surgically implanted?" I asked Caroline Fonseca of Hewson. (Hewson is part of MicroProse's big European acquisition.) "He was that way at breakfast, too," she said. In more subdued moments, Stewart mentioned that *Pirates!* and *Ultima V* are nearly ready. The tacit line on the Lord British conversion is that the game is ready, but Origin is playtesting it to be sure. After the Imagitec/*Times of Lore* debacle, this is to be expected. In a conference on GEnie, British said "I don't think we'll have any problems meeting (an August 1st release date) easily." Other sources say the game has been pushed back to September.

But Not For The ST

The most exciting new fantasy CRPG ran on an Apple II at the Origin booth. Todd Porter's *Knights of Legend* isn't slated for the ST, but the IBM version, scheduled for the third quarter, looks to be a must-play for *pc-ditto 2* users. Todd has ostensibly achieved with his eight-year effort what Datasoft could not accomplish with the *Alternate Reality* series: a CRPG with modules that have true interconnectivity. The surface world and combat screens are overhead perspective, with towns portrayed from the first person viewpoint. Combat is very detailed, and features thirty-two highly intelligent monster types. (Don't expect to go bowling for orcs with this one.) The goal for *KOL's* combat phase is not to throw wave after wave of generated monsters at the gamer, but to make its less frequent battles challenging and memorable. I spent nearly two hours with Todd trying to cover all of the game's features: NPCs with a range of personalities, seventy towns, a fear factor that affects combat tactics, the ability to customize and name spells, a 'paper doll' system that graphically dresses each party member as it is equipped, four more modules to come with nested quests leading to a unifying quest...do I need to go on? *Knights of Legend* —too much promise not to mention, ST version or not.

Behind The Pyramids?

Greg Malone also made the trip for Origin. He unveiled his follow-up to *Moebius,* entitled *Windwalker.* The new game is a much bigger effort with a deeper treatment of Eastern culture and spirituality. Combat has been enhanced with new weapons and moves. The Amherst based Micromagic is again doing the ST conversion, which should appear in the fall shortly behind the IBM/Apple/C64 wave. Greg feels the medieval/Tolkienes-que setting is overworked, so he has been researching other worlds

to recreate. His next effort is likely to be set in Ancient Egypt.

Melbourne House is bouncing right back from the exquisite but flawed *War in Middle Earth* with *Excalibur.* No, not a port of Chris Crawford's obsolete strategy game, but an expansion of the Tolkien effort's multiple play elements in an Arthurian setting. If you didn't like the impressionistic effect of *Middle Earth's* digitized scenery, Rob *(Defender of the Crown)* Landeros' hand-drawn graphics for *Excalibur* should impress you. There will be more role-playing and adventure elements in the new game, and the algorithmic Achilles' heel in *Middle Earth* isn't likely to resurrect here. The soonest *Excalibur* will appear is Christmas, but it looked impressive enough to warrant early mention.

Ali Atabek was showing *The Magic Candle,* which runs on the current *pc-ditto* and has received critical acclaim. I was surprised to learn that Ali's *Rings of Zilfin* only sold 15,000 copies in all formats. His new game has already topped that figure. I can see some of *Zilfin* in *The Magic Candle,* but the latter has a depth that the former lacked.

France Vs US

European giant UBI Soft has been working forever on a graphic masterpiece called *Iron Lord.* The game has been compared to *Defender of the Crown,* but a year has been invested in game play alone to avoid the criticism Cinema-ware's effort received. Gerard Guil-lemot, vice-president of the French company, is undaunted by the negative feedback of U.S. publish-ers, and plans to release ten ST titles over here. *Iron Lord* , though, could end up in a sticky limbo. Hugh Bowen of Epyx said that his company has the American rights to the game, but is not likely to release it. *(The U.S. version was to be called Trials of Honor.)* Electronic Arts is supposed to market UBI Soft's games here, to thicken the plot. A Tale of Two Countries unfolding?

Joystick Or Keypad

Wico unveiled a novel device that CRPG and wargame fans may find useful. The Easystick straps over any numeric keypad, turning it into a joystick of sorts. There are quite a few fantasy titles that would play easier with this invention. You can open or block all eight directions to match any game.

Here and there, I had a little fun. A dressed for success advertising woman had strayed over to the Ava-lon Hill booth. "Do they make anything for the Nintendo?" she asked me. "Yeah, they're converting *Squad Leader* for the NES." I said, " and it *will* support the Power Pad." Over at the *Compute!* booth, I asked loudly if they had free copies of the latest *Compute! ST.* Okay, so I'm no Hunter Thompson. (Actually, I shouldn't joke about advanced games appearing on the kids' machines. *Nobunaga's Ambition* and *Ultima III* appeared for Nintendo, and Sega ran a demo of *Ultima IV.*)

Back To Reality

What impressed me most at CES is that beyond the show's commercialism (money, the opiate of the marketing masses) were people at all levels of the industry, even marketing people, who were passionate about good games. People like Todd Porter, who has spent a significant fraction of his years trying to capture the spirit of "that great D&D campaign" in *Knights of Legend.* Prismatic minds like Greg Malone, absorbing every ray of knowledge he can, and refracting it all out for others to enjoy. Stewart Bell's physical enthu-siasm, coming to a theater near you. The urbane Monsieur Guillemot, stating in careful, measured English that his company "wants to achieve a direct link between the player and the screen." And one entranced CRPG columnist whose stimulus barrier was completely overrun, but will make darned sure that he is scheduled for all four days of next year's show.

Magic Spectre Tips #5

by
Douglas D. Hodson

Stuff It or Pack It!

You heard me, I said you can Stuff It or Pack It if you want to compress it. That's right! In the Macintosh world if you want to compress a file (the generic term is "arc it") you need to use one of the many file compression programs available. In this discussion I will cover the two most popular programs, *StuffIt* and *PackIt*. Both programs are available "up" on GENIE and also from the Current Notes library. Both programs are SHARE-WARE which means "IF YOU'RE GONNA USE IT, YOU GOTTA PAY FOR IT!"

What Is File Compression?
File compression is the act of taking a given file and squeezing all the information into a smaller file. Let's look at a simple "dreamed up" file compression routine. Suppose you created a text file that contains, among other things, many, many spaces. When you save that file, you save each and every character along with all those spaces. Our simple file compression routine could take all the spaces and replace them with a NUMBER representing the number of spaces to be inserted at that point during "decompression time." This file compression program is "coding" the file in such a way that can be unscrambled at a later date for nor-mal use. This is an extremely simple compression routine, and extremely useless, and would probably not be worth the effort to use. It wouldn't save all that much space.

There are many techniques (or algorithms) to compress files. Let's look at another example. Say you wanted to compress an ASCII file. An ASCII file contains nothing but ASCII characters. A typical example of ASCII only files would be source code files used for writing programs. ASCII characters are represented by 7 bits. Most computers use 1 byte to hold 1 ASCII character. But 1 byte is 8 bits, and only 7 bits are needed to hold the ASCII character. If you could write a program that would "pack" 1 and 1/8 ASCII characters into one byte you would be com-pressing the file by almost 13%. All files are not made up of just ASCII characters so this compression technique is quite limited in scope, but you get the idea. There are many better file compression tech-niques available than the ones I've just described.

The two premier programs available for the Macintosh use dif-ferent methods depending on the type of file you wish compressed (ASCII, executable, data, and so forth). Also most (but definitely not all) file compression utilities allow you to not only compress files but also to group several compressed files into one large file. The large file produced would be much smaller than the sum total of all the smaller uncompressed files that produced it!

Why Use File Compression?
There is good reason to ask why? Disks are cheap. But let's suppose you want to transfer a disk full of programs to a friend living in another state by modem. Naturally, you want your stay on the phone to be as short as possible due to long distance phone charges. To save time you could compress all your files into separate compressed files then transfer all of them over the phone lines. Then let your friend uncompress them after he/she receives them. A better way would

be to compress all the files and group them into one large file, then just transfer the one file. This saves a lot of time synchronizing both ends of the your file transfer pro-gram. This is one, and probably the most widely used, reason for using file compression.

Another reason to use file com-pression would be to backup your disk collection. Keep an "arced" backup for each program you own, just in case one goes bad.

Since many Magic Sac and Spectre owners are first time Macintosh users, a short history of the file compression programs for the Mac that have existed over the years should be discussed, just to be complete. When the Mac was born there were no file compression programs, until *PackIt I* was created. *PackIt I*, in fact, did not even com-press files; it just put them all together so they could be trans-ferred easier. *ShrinkToFit* was the first true file compression utility for the Mac, but was very, very slow (that's what I'm told, I've never seen it). Then came *PackIt II*. *PackIt II* not only combined files together as *PackIt I* did, it also compressed them. Next came *PackIt III* which is the same as *PackIt II* except it allows file encryption. Encryption is a method of scrambling the file so that it is very difficult to figure out what it contains unless you know a certain keyword which is entered when the compression and encryp-tion takes place. The next file com-pression utility that hit the Mac mar-ket is called *StuffIt*--the best and most widely used file compression utility I have seen for the Mac.

Why Talk About *PackIt III*?
The files that *PackIt III* created are scattered around on all the BBSs, including GENIE. GENIE now insists that *StuffIt* be used as the main data compression program, but most of the older programs on the board are in *PackIt* format.

Who Created What? How do you know which compression utility created which file? It's simple; in the Mac world filenames can be up to 30 characters long. You do not need to use filename extensions as you do with the ST. Mac people adopted a standard way of naming *StuffIt* and *PackIt* files. If *StuffIt* created the file an extension of .SIT is added to the filename. If *PackIt* created the file a extension of .PIT is added to the filename.

Using *StuffIt*. *StuffIt* has many more options than *PackIt*, including an Unpacker for *PackIt* created files! With *StuffIt* you can create New *StuffIt* Archives or Open old *StuffIt* Archives for updating. *StuffIt* also sports three different compression routines for compressing different types of files. It will use the routine that compresses the file to its smallest size. Don't worry, you don't have to remember which routine was used to compress the file when you uncompress it.
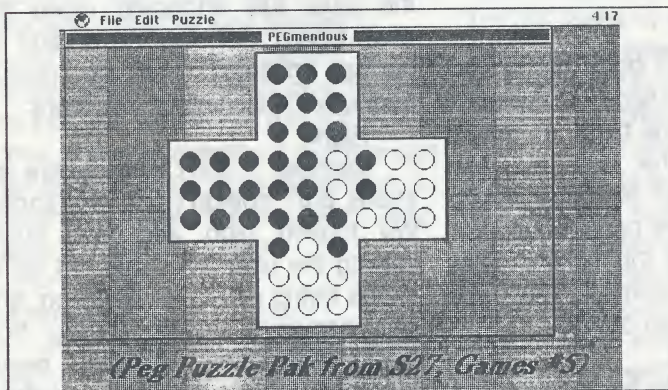
Finders and Systems. Use Finder 5.4 and System 3.2 with both *StuffIt* and *PackIt* programs, if you're using a Magic Sac. If I remember correctly, *StuffIt* does not work with Finder 4.1/System 2.0 and *PackIt III* does not work with Finder 5.3/System 2.0! All these Finders and Systems makes me happy to see Atari so slow to update their TOS ROMS (just kidding?). If you're using Spectre, *StuffIt* and *PackIt* both work fine with the newest Finders and Systems.

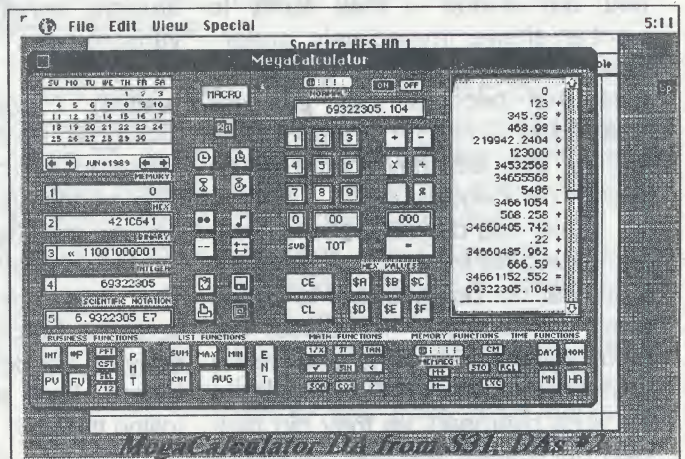# New Spectre CN Library Disks
by Jeff Greenblatt

This month, Current Notes is releasing 5 new PD and Shareware Spectre compatible (128K ROMs) library disks. For those of you using the Spectre with 64K ROMs, I recommend the excellent CN Magic library listed elsewhere. If you like and use any of the files, don't forget to make your shareware donation(s) to the author(s). Here is a rundown of what each of the new disks contain:

Disk S27, Games #5, contains 6 new files for your enjoyment. They are 3D Checkers 2.0, Ballistics 2.0, Consternation 1.0, HangMan, Peg Puzzle Pak, and UnBreakout.
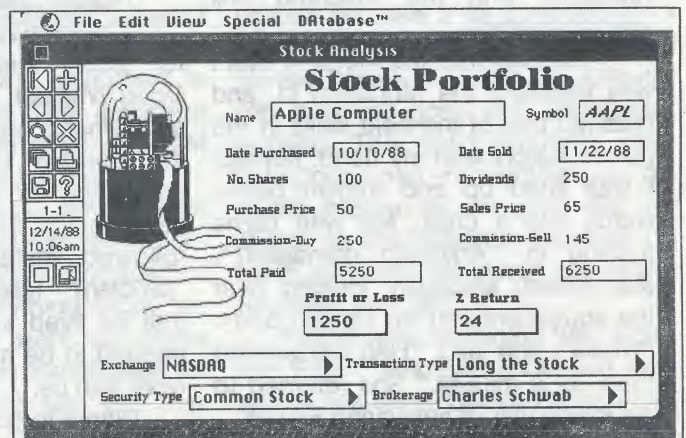

(Peg Puzzle Pak from S27, Games #5)

Disk S28: DAtabase Builder Demo. Fully working demo version of DAtabase Builder––one of the most full featured Database programs (even graphics), all in a DA. The disk also contains several sample files to work with.

Disk S29, Sounds #3, contains 9 sound resources for use with MacCD (on #S23) or Sound-Master (on #S17), and Talking Moose 1.21 (a talking DA). The sound resource files are Archie, Bad Disk 3, Beep Sound 2, Disk Sound 5, Disk Sound 6, Key Click 1, Oh Yeaaahh!, Mac Sound 1, and Startup Sound 1.
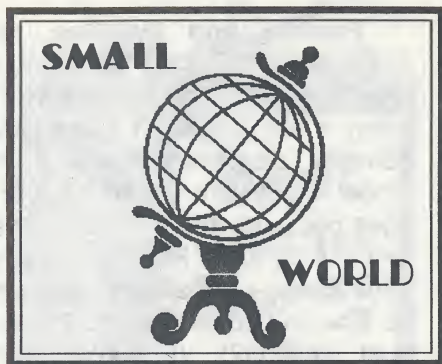

MegaCalculator DA from S31 DAs #2

Disk S30, Utilities #4, contains an assortment of CDEVs, INITs, resources for use with ResEdit, and other utilities. They are INIT CDEV, Assassin, BundAid, Curse The Finder, Easy Icon, Finder Cursor Icons, Finder Icons, HD Mini–Icon, IconManager 1.1, JerryCan, Murphy INIT, NeVR INIT, ScrollMBar CDEV, System Icons +, Version Sleuth 1.0, What, and Windows.

Disk S31, DAs #2, contains an offering of some new and interesting DAs. They are Address Book 1.1.2 and Docs, Artist+ 2.01 and Docs, BlackJack, Calc 3.0, Calendar 1.7, Catch, dCAD 3.0 and Docs, DiskInfo 1.2, Maxwell 2.2a, MegaCalculator, SuperHelp and Docs, VirusDetective 2.2.1 and Docs, and Windows.

ROAD TRIP

By: Dave Small
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It was another Wednesday at Gadgets. The phone was ringing, the fax was faxxing. Faxxers, I've noticed, are unique in their ability to want an answer immediately, preferably before they ask the question. I think that because they can ask questions, and get them to us quickly, they feel they should get an answer back equally fast.

Jamie was downstairs in his crib, expressing his extreme oral dissatisfaction at not being let out to pound away on computer keyboards, like Mom and Dad do. Eric and Jenny were back from school, stomping on the floor overhead, as they did their best to imitate Michael Jackson's Moonwalker video.

In my office/pit from hell, the 4 meg 520 had just died a horrible death; yes, Dan's Texas cowboy boots and our rug, in evil conspiracy, had fried not only the glue and mmu chips, but some of the 1 meg RAM chips, too. The 1 meg 520 had not survived being desocketed; something, somewhere, was broken, and was not lending itself to being fixed. (At last check, everything except the "520 ST" label has been replaced, and the machine still wasn't working).

I reached into the Mega–4 that I was installing the Moniterm in, and brushed one of the heat sinks in the power supply with my hand. Kerzap! I was lifted up and thrown backwards into a chair. My wife came rushing in. "Anything damaged?", she asked, anxiously looking over the equipment and my broken body. "Whew", she said. "Had me worried there for a minute." She returned to the losing war of answering FAXes.

The muscles across both arms and chest felt pulled. I picked up a voltmeter, and measured the heat sink; it's right at 300 volts (not 120!), enough current for a hefty jolt.

Keep this in mind next time you take apart a Mega, okay?

The blasted GCR software was very very close, but locking up on strange conditions. (Turns out a variable was getting accidentally overwritten, causing *bizarre* results). I couldn't use my ZAX debugger, since I didn't have a CPU socketed machine to plug it into. Two of the three ST's were dead. And the third had just tried to kill me.

I wandered into Sandy's room. The FAX machine was buzzing again. A stack of FAXes squatted evilly on her desk, eyeing her. Jamie blatted. Feet stomped upstairs like rolling thunder.

"There's only one solution, Sandy", I said. And we both said together, "Road Trip!"

Road Trip

Last time we'd gone out to visit my folks in San Diego, Continental had overbooked the flight. All five of us volunteered the take the next flight, in exchange for "free tickets to anywhere in the continental US." Okay, there were the tickets. They had to be used within a year, and we were running out of time.

Tickets: check.

A rationalization had to be found for going somewhere. Turns out Doug Wheeler, one of the legendary tester/masochist "Beta Testers" for the Spectre 128, was looking for something to do––and did I ever have things to do. An agreement followed instantly between. The "problem" (chuckle, chuckle) was that he lived in the Bay Area, and needed to be moved to Colorado to work with us.

Where to go: Check.

Sandy "born to shop" Small had a good friend, Cindy Claveran, also living in the Bay Area. Mastercard sent them both a dozen roses after their last shopping spree together. (I never had seen a Mastercard bill using exponents before. What computers won't do these days.) A quick call to Cindy, now at Amdahl (the mainframe people), verified that she was available for shopping, and that all the malls in the area were begging them to show up.

Shopping: Check.

Finally, my grandmom lives up in Placerville, three hours out of San Francisco. She hadn't seen her great–grandkids in years, and hadn't seen Jamie at all. This provided the last excuse needed for a road trip.

Family Rationalization: Check.

On the Road Again

By now, we've got Denver's airport down to a science. Arriving in plenty of time, we gently saunter to the gate, idly shopping along the way, board first (an advantage to having children), and sip champagne while waiting for the flight.

Right.

Jennifer "I don't know where my shoes are" couldn't find her shoes. We looked high and low, finally leaving the house with her old set of shoes being carried in one arm, and with nerves a frazzle. (Funny how losing one shoe, repeated seven hundred times through a school year, can irritate the nerves.)

We arrived at the airport fifteen minutes before flight time. Sandy tucked Jamie (20 pounds) under one arm, his car seat (15 pounds) under the other arm, and Eric and Jennifer were towed behind, and dashed into the airport. Dave (175 pounds) went and parked the car in the lot, then ran for the airport.

Naturally, they put us on gate C–24, which we usually refer to as

"C–Kansas" because of the distances involved. By the time I reached gate C–17, I was winded, had sweat pouring down my face (one quart), and was lugging the computer cargo I was bringing along. Checking the time, I saw the flight was due to leave in two minutes.

I thought, well, I could run for it, and throw up when I finally get to the gate, or just walk fast the rest of the distance, and count on Continental to be late. I chugged up to the gate, well aware that I had "broken through" my antiperspirant, to find my family (and everyone else) already aboard. I huffed, "I'm Dave Small; did my wife leave a ticket?". "Yes," they said, "Could we see some identification?" I said, "Who else would be dumb enough to run through Stapleton Airport at eight in the morning?"

Apparently it was an effective ploy. They let me on.

I looked down the aisle for my wife. On aisle twelve was sitting a dishevelled creature, hair plastered across her face, dripping sweat, looking wild–eyed. A thrilled Jamie was babbling at her; Eric and Jennifer looked sullen. I quickly glanced behind me, but there was no escape; the door was closed.

I'll skip on the details of the flight. Mercifully, the people in front of Eric did not throttle him for kicking their chair repeatedly. I did manage to surprise the flight attendant by buying a drink "for that sexy lady" sitting in my wife's seat.

Arrival

Arriving at the San Jose airport, we rented a van, piled everything into it, and ate breakfast. Off to find Cindy's house. Found it.

Now, this IS the Bay Area, house prices are beyond belief, and so forth. Cindy's house isn't huge. It does have the indefinable well–loved look that a happy house has, though; some mixture of what's hanging on the walls, what matches what, and how many toys are scattered on the carpet. So we warned Jennifer "Truthful" Small: "Don't say

that this a small house, Jenny." She nodded.

Cindy emerged, and began to talk shop with Sandy. (Literally.) Several years later, she did say hello to me, and the weekend was planned. Her kids and our kids mixed, formed critical mass, and destroyed a carefully picked up room within minutes; only their inability to form neutrons prevented a major radiation accident. Roller skates, outdoor toys, and cactuses were promptly checked out.

Off to find a motel. As we emerged from the house, Sandy and Cindy were discussing her house, and Sandy said something like, "Well, it does seem like it would be easier to keep a small house clean."

Jennifer "Thundercloud" Small promptly assumed a stern stare at Sandy, and said, "Mommy! You're not supposed to talk about it being a small house!"

Gratefully, I oozed into the ground beneath me.

Campbell Inn

Stayed at the Campbell Inn. Highly recommended. I mean, they provide his and her bathrobes. A VCR. A movie rental library. (No, not THOSE kinds of movies! We're talking "Best of Wile E. Coyote," which is treasure beyond compare when you're with kids.) If you're going through San Jose and need to stay somewhere, check it out.

Saturday occurred. I went off on a secret project at a secret location I can't really discuss, developing software hooks to enable the Spectre to directly print to the SLM–804 using PostScript, using TRAP #5's vector (a .LONG address) as the primary I/O hook, passing the characters in the D0 register's low byte, assuming the laser page buffer is in high RAM and you're in supervisor mode.

But again, I really can't reveal what I was doing. Maybe next issue.

Sandy and Cindy Shopped. I can't really say anything more, as Mastercard's stock went up twelve points, and I may be investigated for insider trading. I will say that they

both looked much more relaxed, happy, and poorer at day's end.

(Having experienced this fun once or twice in my life, I was happy to be where I was.)

I'll skip over the rest of the vacation in one paragraph. Sunday. Picnic time. Cindy displayed a prowess at softball I found frightening. Children had a "bad" contest. Monday and Tuesday. Off to grandmom's. Wife and grandmom have contest of wills in kitchen over who will wash dishes. Wife wins, thus winning praise from grandmom. Huh? I'll never understand.

Parting

Wednesday, off to Doug's place. Sandy and I parted ways there; she went back to the airport with the kids while I packed up the U–Haul with Doug. We had planned on my driving back with Doug from California to Gadgets Central in Colorado.

Naturally, Sandy got caught in construction on the way to the airport, and missed the flight back. She got to wait three more hours with three antsy children, one of whom promptly set off an emergency exit alarm on an airport door, and then flew home through a storm, arriving around midnight.

U–Haul Hackers

Meantime, Doug and I packed. I never realized how much a complete collection of Byte magazines could weigh! We also set up Doug's car to be towed behind us. We discovered the air conditioner didn't work, and we were going to be driving through Nevada ... U–Haul suggested we take it to a repairman. I suggested we fix it on the spot. We literally hotwired it with an alligator clip, and one good kick later, got it working. The radio promptly died, but Doug had brought along his ghetto blaster, so we used that instead; to the cheerful, carefree (?) tunes of Rush, we rolled out of the Bay Area on I–80.

Hours later, darkness fell. Donner Pass, umpteen thousand feet above sea level, before Reno. Road

is one lane wide, one *skinny* lane between concrete barriers. The moving van's engine proved to be of no value in compression braking, so we hurtled along at 65, Doug's car yawing behind us, the whole combination rubber-banding, thus providing disorientation in two dimensions at once. I settled into video-game concentration mode, not daring to take my eyes off the road long enough to look at the speedometer.

The cab took on an unreal atmosphere as the truck leaned back and forth, zipping around the 55 MPH curves at 65, squeezing between the barriers. Then, just like a video game's fifth level, deer begin to jump out in front of us, daring us to make them into venison. One nearly succeeded, adding to my collection of grey hairs.

Finally got to Reno with a very old driver at the wheel. As soon as my knees quit knocking, I pulled my usual trick when in Nevada: I took a beginner to the slot machines.

Doug promptly won and won and won. Sandy did the same thing a few years back; I suspect that these machines are geared to make a beginner's experience a Real Good Time, thus providing a lifetime addiction (something like Star Raiders). Of course, Old Pro Dave promptly lost and lost, so we ended up with a net cash transfer.

On the road again for a couple of days through Nevada and Utah. We exhausted our conversational potential, and learned the cassette tapes by heart. Only the occasional antelope herds crossing the freeway, and the "Wholesale Fireworks" signs every ten feet in Wyoming, did anything to ease the monotony. Regrettably, we had spent time on the freeway behind a cattlehauler which had leaked, and splashed the U-haul irrecoverably; coyotes fainted downwind of us.

But for me, the large open spaces out West were very refreshing. They reminded me that the world isn't packed full just yet; you could lose several cities out there and never miss the space. When

you live in an urban area, it's good to get out where there is absolutely no one, and see what a thin veneer civilization really is. It restores your perspective, and that's just what I needed for a break.

Meantime, at home, Sandy and Barb ("Gadgets: Female owned, Female Dominated") were back running the office, much refreshed by their vacation. Barb had taken time off as well; in fact, I am much impressed by the memory I have of Barb with a MAC-10, machine-gunning a "Rabbit in the Hat" logo/target. She could have been a double for Sigourney Weaver in "Aliens."

Home at Last

Down into Colorado. I warned Doug repeatedly of the low humidity, of the need to buy a humidifier. Naturally, we drove into Denver in the middle of a howling thunderstorm, the lightning arcing from cloud to cloud. (The ghost of Nikola Tesla reportedly resides here, and if you're unfamiliar with the name, you really need some back issues of Current Notes.)

For the next ten days, while Doug settled into Denver and got an apartment, it rained every day, spectacular thunderstorms. The sun never came out; it was completely overcast. Something like Seattle. In the meantime, Doug learned about thunderstorms in Colorado.

For instance, you know· the lightning is close when you can see the flash, hear the air *hiss,* then hear the thunder a split second later. Promptly at 3 PM daily, we'd shut down all the computers in the office, and go watch the fireworks; it's Miller time.

When it starts hitting 100 degrees, Doug will begin believing me about the local weather. In the meantime, I suspect he thinks I'm a bit eccentric, and to be humored, especially about the weather—and about the "C" language. This attitude is remarkably like Dan Moore's, with the exception of the word "humored."

Doug stayed with us a day or two while he found an apartment (in

Denver, a big, nice, furnished two-bedroom apartment is $350 per month, which wouldn't buy space in hobo's shack in the Bay Area). He set up his equipment, and, I think, set out to show that our investment in him hadn't been a waste.

Doug proved his value to Gadgets instantly, tending to small matters I hadn't had the time for, and helping Sandy clear out the "to be answered" technical FAXes. We feel we've got a good thing here. Doug has also taught me twice as much as I had known about using the ST in ST mode—such nifties as Neodesk, Superboot, Universal Item Selector prompted a software buying trip on my part. I've really been missing out on some things!

We tore into the GCR code that was still fizzling; if you remember the scene on Hoth in "The Empire Strikes Back" of Han Solo and Chewbacca trying to get the Millenium Falcon working, you'll have a picture of us. (I even began muttering, "Try it again, Chewie!") Doug also traced down a bug in my code I'd been chasing for, err, two years (no kidding), and pointed out a critical fault in my debugger I'd completely missed back in 1985.

Today we got the GCR units off to the Beta testers; the irritating bugs that had bedeviled me fell by the wayside when both Doug and I looked at them. Between us, we seem to work out puzzles much more quickly than we do alone; it works well.

Doug's younger than I am; this is about the first time I've ever written that phrase. Hmmm.

I guess I feel like the old master teaching an apprentice. On the one hand, it's nice to have someone to do the jobs like carrying in the water, writing a poster-output program, scrubbing the floor, and uploading to GEnie. On the other hand, it is a bit disconcerting to watch this very bright person zipping along and realize that only the headstart you've got keeps you ahead—and that headstart only lasts so long. I wonder where it'll go from here.

So much for the road trip. Gadgets now has another much, much needed person.

Miscellany

I suppose I should mention some Spectre news, or some important rumors, or some astonishing fact about the ST. Unfortunately, it's June, the slow time of year, and I'm decidedly out of the news loop; check out Frank Sommer's column for that.

Spectre GCR and version 2.0 (they'll go out together) continue to head forward, now much more rapidly with Doug here.

The Detroit World of Atari show is next week, along with a courtroom scene with my ex–partner (remember him? Whatzisname?) as the ashes of Data Pacific get put to bed. In the meantime, the Happy Computers suit is coming along nicely ... no, not theirs against us, *ours* against *them*. I'm not supposed to say any–thing more, but would you mind terribly if I just smiled? I'll not bore you with the depressing details; it irritates me to waste time (and, admittedly, money) with silliness when I could be writing or hacking.

Still, our lawyers repeatedly tell me that you know you're a success when a) you're copied and b) someone sues you. It's sort of the 80's way to know you've won.

Goodbye, Julius

Julius from Atari Canada has left Atari. Julius did more for U.S. developers than Atari U.S. You'll be missed, Julius, and I'll not forget the tour of the Toronto CN tower you gave me.

Eunuchs EUnite!

UNIX–lovers of the world appear to have united in outrage at my last column about UNIX. Many eunuchs wrote to express their feelings about my column, which was not, shall we say, entirely positive about their religion and part–time operating system. Look, let's go ahead and admit the truth; in the computer world, the most oddball characters are found at UNIX labs (espe–cially Berkeley Unix) and at Forth labs. Sometime, a column about what language attracts what sort of per–son is due from me; let me simply observe that UNIX–ites, or "wizard"––eunuchs as they are called, are fond of beards, moustaches, and pony–tails secured with old rubber bands.

Even my old buddy Dan is being seduced by this religion.

In a note that seems perfectly fitting to me, many, many of their notes to me––sent over the UNIX USENET––were lost to a UNIX system bug on one of my two UNIX boxes.

Me, I'm safe. I've only got two UNIX boxes in the office, which I've spent my hobby time networking together through UUCP and now USENET. I've put a new hard drive in one for more USENET notes. I'm learning shell scripts, crontab, and fschk. I can quit anytime. I'm building up a complete library of comp.sys.atari.st from USENET. But it's only social UNIXing.

Perhaps the evil lure will overcome me after all. In the meantime, I feel like Bilbo vs. Sauron's Ring.

Conclusion

Well, there you have it.

That's how it really happened, warts and all. Just another family vacation, a little business, a new person working with us. A little technical talk, mostly a look at Gadgets by Small––and some real observations on how we run things, if you're willing to read between the lines a bit.

As the song says, "These *are* the 'good old days'." I can't say it any better.

In the meantime, the Beta testers are already finding bugs. Fortunately, this time, I've got someone else to blame for them. Just kidding, Doug.

See you in September!

THE MARSHALL ARTIST

This month the Marshall Artist concludes his look at the professional world of computer graphics with an examination of the exciting emergence of 3D graphics and animation in the broadcasting and video production markets.

by Steve Marshall

Last month we took a look at the booming computer graphics industry and focused on opportunities for the artist in the publishing area. This month we'll discuss the exciting developments within the broadcast and video production industries and see how computer graphics are revolutionizing what you see on TV.

Of all the revolutionary changes broadcasting has experienced over the past decade, none is so spectacular as the recent boom in computer graphics and animation. Today computer graphics are an accepted and expected part of the broadcast industry whether it be local or network newscasts, TV game shows, sports coverage or commercials. From the spectacular animated openings for the Olympics, Super Bowl and NBA Championships to the surreal animations created for Levi Strauss, Prudential Life Insurance and other commercial products, computers have intrigued, dazzled and just plain "wowed" us with their breathtaking images and movement.

Of course, as this demand for sophisticated computer graphics has increased, so has the demand for a new breed of artists to bring their special talents to this new medium. For the artists who excel in this medium possess a unique talent beyond those of the traditional artist —an ability to visualize objects and movement in three dimensions, indeed, even in the fourth dimension of time. The 3D computer artist is sculptor, director, lighting technician, cameraman and visionary. In addition, these artists do not copy reality but rather create objects and images that could never exist, or juxtapose objects and textures to create a new reality, a fanciful world where colored glass twists and bends, metamorphizing into spinning logos and mirrored spheres.

The computers capable of producing these fantastic graphic illusions have come a long way from the huge monoliths that took weeks of calculations to produce a single image. State-of-the-art graphics chips combined with high speed processors have reduced rendering

Of all the revolutionary changes broadcasting has experienced over the past decade, none is so spectacular as the recent boom in computer graphics and animation.

times to a matter of minutes, making three dimensional computer animations affordable (relatively speaking that translates to about $3,000 per second) and easily produced. High end 3D graphic workstations like the Wavefront, Symbolics, Cubicomp, Artstar and others have become standard equipment at television stations, video production companies and major corporations. And as 3D graphics have become commonplace in broadcast and video, demand for lower end systems have spurred interest in the Mac 2, Amiga and IBM PC as low cost alternatives.

What About the Atari ST?

And what about the Atari ST? As a professional artist I own practically every piece of graphic software available for the ST and have been impressed with the *CYBER 3D* software like *CAD-3D*, *Cyber Paint*, *Cyber Sculpt* and *Cyber Control*. I have produced many short animations and have found the ST programs to be easy to use and animations fun to produce. With the new genlock from JRI, the ST finally has some potential for limited desktop video applications. But the ST is not capable of producing images of broadcast quality, so its usefulness must be reserved for amateur and home use. However, this is not to say that time and effort spent learning *CAD-3D* and *Cyber Sculpt* is wasted. As I stated earlier, there is a demand for a new breed of artist, and it is the special artist who can visualize and create in not only three dimensions but the fourth dimension of time. The principles of 3D object creation and animation are the same whether you are working on a $500 Atari ST or a $100,000 Wavefront. The Wavefront just provides you with better, more sophisticated tools and faster rendering.

Paint vs Object Graphics

For those readers who are new to computer graphics, perhaps a word of explanation is in order. Computer graphics generally fall into two categories: 2D "paint" graphics, and 3D "object" graphics. In 2D graphics, the scenes are created much like painting on a canvas.

Images have two dimensions—height and width. In addition, like paint, when new color is placed over old color, it hides and effectively erases it. If you have used *DEGAS Elite*, *Neochrome* or *NVision*, you have experienced creating 2D graphics using a "paint" program. 2D animation consists of painted objects or characters moving across the screen. This type of animation has its counterpart in the Saturday morning cartoons and, of course, the ever-popular video games.

3D images begin as three dimensional models; objects that not only have height and width but depth, the third dimension. Producing a 3D image requires creating, on the computer, a three dimensional object by specifying points in a virtual "universe" along with light sources, point of view (camera) and object characteristics (color, surface texture, etc.).

Ray Tracing

Once an object (or objects) has been created in three dimensions, the computer can use that information to create images of amazing reality. Using a technique called ray-tracing, the computer can trace individual rays of light from each screen pixel back through the scene to the light source. In a low resolution screen like the ST's, this means tracing 64,000 different light sources, calculating the effects of light and reflection from its surroundings. In higher resolutions, this can total over 1 million tracings. It's no wonder that complicated ray traced renderings can take hours and even days, depending on the sophistication of the system and the complexity of the scene. Using ray tracing, images of photographic realism can be produced with all of the effects of reflection, shadows, mirrors and multiple light sources. Ray tracing is the technique used in all of the high end systems to produce the remarkable 3D animations seen on network television.

Taking these individual scenes and combining them with moving objects and moving "cameras" produce animations with incredible visual impact. Most of the higher end systems support what is known as "key-frame" animations, where the artist can specify the beginning scene, the ending scene and the number of frames, and the computer will interpolate the scenes in-between (also known as "tweens"), creating smooth movement and animation through the sequence.

Combine all of these powerful object animation capabilities with 32 bit color (that's over 65 million colors) and high resolution, and you can see just how incredible the high

An example of a 3D object created with CYBER Script.

end 3D graphic workstations are. It's enough to make you want to sell your house, your car, maybe your first born!!

3-D Graphic Workstations

I just returned from the NAB (National Association of Broadcasters) Convention in Las Vegas and spent a lot of time evaluating the many 3D Graphic Workstations (well over a dozen) now on the market. These ranged in price and capabilities from the low end Amiga-based and PC-based systems in the $25,000 to $50,000 price range to the full-blown, high-end systems starting around $65,000 and going up to $120,000. The most powerful systems were running on Silicon Graphics machines utilizing multiple high speed RISC processors running in parallel along with custom graphics chips and high resolution displays (65+ million colors). It is these machines that are being used to produce the network graphics, NASA's space animations and most of the impressive animated commercials seen on television.

Working as an Animator

I also got a chance to talk to one of the professional artists who works on one of these fantastic systems. He agreed that there is a growing demand for good 3D animators but cautioned that there is also a lot of competition, particularly in the big, established markets like Southern California and New York. When looking for new artists, companies look primarily for previous experience. This experience can be on any computer system, whether it be in school or at home. Since animation involves movement, a video tape of your efforts is a must. Examples showing complicated movements with moving camera and lights is more effective in showing your skills than just "pretty pictures" so concentrate on developing animations that take advantage of those effects.

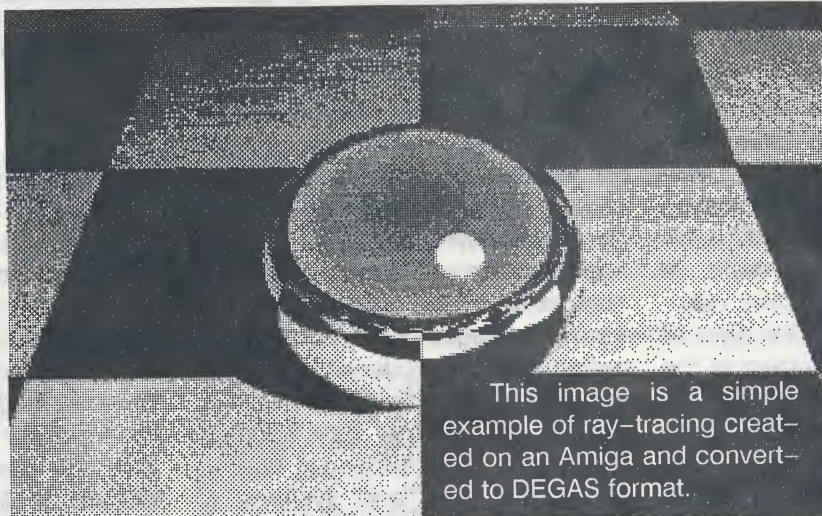The first place to inquire about opportunities in your market is your

local television stations. Unless you are in a large market, smaller stations may have only the most rudimentary paint systems, but the experience gained will serve you well as you advance in your career. Video production companies offer another good opportunity for graphics. Obviously the most successful companies will have the best systems but be prepared for some stiff competition. Other areas to pursue include large corporations in your area, utility companies, even hospitals sometimes have a graphic arts department utilizing some computer graphics and animation. Starting salaries will vary greatly from market to market, but generally expect entry level pay to start at $16,000 to perhaps as high as $20,000.

This image is a simple example of ray-tracing created on an Amiga and converted to DEGAS format.

and is a great computer for learning the fundamentals. If you are looking to computer graphics as a possible career, I hope these articles have given you some insight into some of the opportunities and provided some ideas as to avenues of pursuit.

There are other specialized areas of computer graphics (designing video games, preparing graphics for slides, package design, education, even as fine art!). Explore opportunities in your area.

In September, we'll focus our attention back on the Atari ST and talk about some exciting new developments in graphic hardware and software. Stay tuned...

Amiga vs Mac 2 vs IBM

If your area does not have any established video production companies utilizing 3D graphics, you might consider providing that service. Unfortunately, the Atari ST is not an acceptable low cost system for entering this market. While the Atari ST has excellent capabilities with its CYBER line of 3D software, it does not at this time support the more advanced features like ray tracing and full texture mapping, in addition to its obvious lack of colors (the minimum for broadcast quality is 24 bits--16 million colors, the ST provides 16). Lack of a standard NTSC interlaced signal and video overscan further hampers its performance in the field of desktop video. As much as I hate to say it, (particularly in an Atari magazine) control of the low end 3D graphics market seems to be a battle between the Amiga, the Mac 2 and the IBM (with the new VGA format). While at the present time the Amiga has the

edge due to superior hardware and software, it appears to be only a matter of time before the Mac dominates this market as it has the desktop publishing market.

This concludes our overview of the professional computer graphics field. If you are a beginning computer artist, don't give up on your ST. The ST has excellent software

Computer Shopping

Shopping for a home computer can be a more daunting task than shopping for a new car. Most of us know the basic things we need in a vehicle, whether we really understand what's under the hood or not. We even know a lot of the jargon, but the first-time computer shopper is often left stranded in an alien world, where he or she doesn't even speak the language.

The confusing welter of products and options available can boggle the mind of a specialist, let alone a computer novice.

Who Needs One?

Let's clear away some mental rubbish first. Who really **needs** a home computer? My response may be a bit radical: not very many people.

A typewriter or pen and paper will suffice for the occasional letter to Aunt Agatha, and one can always find a typewriter for an irate letter to the Congresscritter. A pencil and pocket calculator are quite satisfactory for balancing the family checkbook. Doing your taxes with computer assistance seems attractive, but you'll have to use the computer to keep all that data up to date during the year, and the rules change every year as well. Home financial tasks can be more—not less—work with a computer.

This doesn't mean that a home computer can't be a labor-saving device and a great convenience. There are probably very few professional writers these days who don't use some sort of word processor, for instance.

Some Basic Concepts

In the abstract, the computer is just another tool, like a screwdriver.

It consists of two major parts: hardware and software. *Hardware* refers to the computing electronics, including the Central Processing Unit (CPU) and other devices it controls. *Software*, or computer programs, are sets of instructions telling the CPU what to do. The CPU can manipulate numbers: add, compare, and the like. That's the main thing it does. And it manipulates numbers very quickly indeed.

Consider the following facts. A CPU manipulates numbers. A computer program is a set of instructions telling the CPU what to do. A computer program is a set of numbers. A CPU can make "decisions" by comparing numbers. Both a program and its data can be stored electronically and on something relatively permanent.

All this adds up (hehe!) to a tool that can change its shape to fit very different tasks. Sorta like a single tool that can be anything from a screwdriver to a chain saw to a socket wrench, or anything else that it's been *programmed* to be. More exactly, a computer can be built or programmed to do any task that a clever human can describe in terms of precise manipulation of numbers.

For some tasks, engineers have found it makes sense to build both the hardware and software to do only one job; the program can't be changed, and the hardware is built for that one task. This is the case with the computer in your new car. Another approach, and the one that concerns us here, is a computer system consisting of "generic" hardware, designed with the idea of using many different programs for many different tasks—the general purpose computer.

A Tool For The Mind

Unlike a screwdriver, the computer is a tool to assist the mind rather than the hands. The tasks we program it for are cerebral, but most often the dull and routine chores that have to be done over and over again. The computer is ideal for assisting us with such work.

It's the general purpose computer that we normally think of when we talk about *the computer.*

In its home incarnation, the hardware usually consists of a display monitor, a keyboard, a printer, one or more disk drives, and the computer itself. Often some of these components are combined, as with the Atari 1040 ST; where the keyboard, disk drive, and computer circuitry are made as a single unit.

The disk drive is used to "load" programs and data, turning the computer into a specific tool for a specific task. Programs that do useful work are often called *applications software,* and may be sold with the hardware as a package deal, or purchased separately.

The Operating System

A computer sitting quietly on your desk still has much in common with a paperweight. There's a special sort of software needed to make it even marginally useful: the *operating system (OS)*—a program that manages the hardware resources (memory, disk drives, printers, etc.). It's the operating system that really makes it practical to produce applications software with any real hope that it'll be widely usable.

Some systems, such as IBM compatibles, expect to load their OS (called MS-DOS) from disk. Others, such as the Atari ST, have the operating system built in.

Know Your Requirements

I've had the word *requirements* drummed into my balding head for years. Know your requirements. Then, and only then, can a rational choice be made.

Think hard and cold-bloodedly about what you want to use your home computer for. Concentrate first on the needs you have **right now,** not those that may lie in the dim and uncertain future.

Next think about where your interests seem likely to take you over the next three years or so. This is a fuzzy area, subject to lots of changes, but a list of blue sky items is useful to establish the capacity for growth your hardware will need to support. Without giving some thought to growth potential, you might find yourself locked into an initial system that's too limited, forcing a too-early replacement.

Make lists of everything, and organize them into "want now" and "maybe later" categories. Shuffle things around until you have a reasonable priority ranking. Now you have some sort of basis for judging the systems you look at.

Compatibility?

"IBM compatible" is a requirement that frequently appears at the top of the list. I think this often happens for the wrong reasons.

The marketplace in IBM compatible computers is more confusing than most people can imagine. You're in for a really frustrating experience if this is the direction you want to go, partly because nearly every feature of that system is optional (bring money).

Think hard on this: if you think you need IBM compatibility, exactly **why** do you need it, and how much will you use it?

If you use an IBM compatible at the office, and your main reason for getting a home computer is to exactly duplicate the system you're familiar with, okay. If you want to run one or two software applications that are only available for IBMs and

compatibles, there are other ways to solve the problem. There may well be equally good (or even better) solutions available on the non-compatible machines.

The fact is that MS-DOS is not an operating system that the first-time user will find easy to learn. It is a command-oriented system, meaning that you will have to learn its language and rather more of computer operations to use it at all.

Now it is possible to rig an MS-DOS system so that a simple menu appears when the system is first started. It's not a job for the neophyte, though; you'll need help from a sophisticated user. And you'll still have to learn some non-trivial new skills in order to manage an MS-DOS system well.

By contrast, the Atari ST, Commodore Amiga, and Apple Macintosh use a "desktop" environment that you may find easier to learn. Of the three, the ST system has the shortest "learning curve" of any computer I've ever seen.

There's one other facet of the compatibility issue that some people (like a couple of my friends) are very concerned about. There's every reason to believe that IBM compatibles (and IBM) will be around for years to come, and there's an immense load of IBM-compatible software around. So software availability and a general confidence in continued support argue for the IBM clones versus the others. This issue is much more in doubt for the likes of Atari and Commodore, depending on what analysts you read.

No Guarantees.

There are no guarantees in the computer business; companies that make too many wrong decisions, or

lose their competitive edge, WILL disappear. At the same time, there are good reasons for looking seriously at the non-IBM alternatives. What to do?

History suggests that Atari's future may be more in jeopardy than the others, but that may not be entirely true, and may not matter all that much. Here's my reasoning, for what it's worth.

First, Atari seems at least to be holding its own at this time, and Atari management has made promises that may lead to better corporate performance this year. (Yeah, I know, the year's half over)!

Second, eventually you will replace your computer, no matter what you choose -- expected life-time is probably three to five years. Your needs evolve, and technology marches on. There's no guarantee that any software you buy now will run on your next machine.

Third, even Apple may experience increased competition-- maybe even from clones. That could complicate matters dramatically.

Emulation

Finally, there's another way to solve the compatibility problem without buying an MS-DOS machine. It's called emulation-- basically a product which allows one computer to pretend it's another. IBM emulators exist for both the Atari ST and the Amiga, and there are Mac emulators for the ST.

The negative aspect of emulation is that you have to learn two operating systems: the host's "native" system and that of the machine being emulated. The positive aspect is that emulation opens up truly enormous software libraries, and can dramatically enhance your computer's lifespan.

Conclusions

There aren't any cut-and-dried formulas. Become as well-informed as you can, don't rule out the non-IBM possibilities, and above all, KNOW YOUR REQUIREMENTS.

Atari in Europe, Update 89

by Milt Creighton

In April and May I visited Germany and England on business, and had the opportunity to look up a number of Atari establishments just as I have the past two years. In Germany I visited several stores in the Stuttgart area and in England quite a few in the London area and even one in Scotland.

I had a hard time finding Atari dealers in Stuttgart: they don't advertise in the yellow pages the way computer retailers do here. Instead, the phone book just lists the name and address of the computer dealer without any mention of the brand names he sells. I had to locate and visit half a dozen stores to find two that sold Atari products.

The first one I visited was the computer department of a rather large electronics store near one end of the fussgang (a walking mall in central Stuttgart). There were a number of other brands on display in the store in addition to Atari. The store obviously focused on the home user, judging by their selection of display items and the software they sold, but the store clerks were more interested in a new arcade game they were experimenting with than helping customers.

Made In The USA

I looked over the hardware and software on display and found, that most of the game software on their shelves was imported from the US and Britain. Only a few of them were translated into German. There were only one or two German games on display, even though games occupied more than half the store shelf-space.

The most prevalent German-produced programs were computer languages, compilers, and assemblers and productivity programs such as desktop publishing programs, spreadsheets, databases, and text processors. The salesmen (when I finally gained their attention) had never heard of the Laserbrain FX-80 emulator for the Atari SLM804 laser printer. For all their shortcomings in that store, they did have the best advertised prices. A 1040 STFM with an SM124 monochrome monitor sold for 1439DM (about $800) while the same computer with a Philips 8833 RGB monitor was about $1,000 (I'll list all prices in approximate US dollar equivalents). These prices were a LOT lower than any of the others I found. I also suspect they did not include VAT (sales tax of about 15%), but I could not confirm that.

All Models Available

The other Atari dealer was a big department store at the other end of the fussgang near the train station (bahnhof). The name of the store is Kaufhof and it had the most complete collection of Atari products I saw in Germany. They had a wider range of software, but also largely from the U.S. and Britain. By way of distinction, however, the sales staff at Kaufhof was knowledgeable and busy. There were large crowds in the department every time I was there, but I was able to get some information about Atari products. The store had every Atari computer model on sale from the 8-bit 800XL right through the MEGA ST4, although not everything was marked with a price tag. They also had the Atari PC2, PC3, and PC5.

Prices were as follows: a 520ST cost $555 without a monitor. I can't say whether that included a single-sided or double-sided disk drive. The SM124 monitor was $275 separately (no bargain there). A 1040ST cost $830 without a monitor. The MEGA ST4 $2200 and the SLM804 was $1900. The PC3 cost $1330 and its monochrome monitor was $375 while the Thompson color monitor cost a hefty $550. The PC2, on the other hand, was only $1100 and I believe that included a monochrome monitor. The Megafile 60 was also on display with a price tag of $1100. The PC5 had no price tag and I was unable to get a price quote.

Not long after that I left for London and took several days over a long weekend to visit the computer stores on Oxford Street and along Tottenham Court Road. But before I made the trek I decided to do a little phone book reconnaissance first. The London phone book contains very helpful yellow pages and advertisers are not the least bit reticent about stating the brand names of the products they sell.

Finding familiar brand names prominently displayed, I decided to do a little unscientific polling. After all, we have been hearing for years about what a high visibility Atari has in Germany and in the UK. I counted the number of times Atari was listed in the boxed advertisements compared to the number of times the names of other computers were listed.

The Yellow Page Poll

You might be interested in knowing how many brand names appeared in the London yellow pages (in case you think the Brits don't have much to choose from). There were 49 brand names listed, including some I have never before, connected with computers such as Packard Bell, SBC, Opus, Ericsson, Pegasus, ICL, Commodore [just kidding], and Novell. The familiar brands were there, too, such as IBM, Compaq, Amstrad, and Tandy.

Nearly all computer establishments listed two or more brands, many listed six or more. In the number one position (having appeared in no less than 22 advertisements) was IBM. Number 2 with 15 entries was Olivetti and then came Amstrad with 12. Apple, Compaq, and Epson all had 10. The 7th and 8th positions were another tie between Apricot and Toshiba while Wang and Tandon held down the 9th and 10th positions with 6 entries each. Where was Atari, you ask? Atari was tied with Zenith and Hewlett Packard for 13th through 15th place with 3 entries each. Does that surprise you? It sure did me.

I know there are a lot more Atari dealers in London than the three who advertised in the yellow pages. I visited about ten over the weekend, including one quite large establishment owned by the largest mail order establishment in the UK. All but two of them didn't bother to advertise in the yellow pages at all. Does that make the figures or ratios suspect? Not as much as you might think, since those same Atari dealers also sell other brands as well as Atari. Adding them in would tend to keep Atari in the same relative position.

Commodore, by the way, was in sole possession of 16th place with 2 entries, and there are a whole lot of Commodore 64 and Amiga dealers around who didn't bother to advertise either. Tandy has a chain of stores all over London and only had 1 entry.

What does all this mean? I can't say for sure. I didn't expect to see Atari so far down the list, even though few of the dealers I visited advertised in the phone book. Those who did advertise there appeared to cater to the business market, since that's where the bucks(or pounds) are in London. Atari has obviously made some inroads, but one possible inference is that Atari is bigger with home user than with the business user in London––not all that startling a conclusion, I grant you.

I also discovered that the UK has its own version of the magazine "Computer Shopper," and I thought it might be illuminating to compare the US and the UK versions. Atari was more heavily represented in the UK version, as you might expect. There were more Atari–specific articles than appear in the US version too, but what I found most interesting was that there were more ads for the Atari PC machines than for the ST line. Looks like the MS–DOS crowd has a lot of clout there, too.

Bundling Vs Discounts

Enough of that. Let me describe the state of the Atari market in London. It can actually be described in one word: bundled. It is really getting hard to tell how much things cost there anymore because of all the package deals. Allow me to give you an example. Silica Shop, perhaps the premier mail order house in Great Britain offers a new Atari 520STFM with built–in double–sided drive for about $675 including VAT. That doesn't sound like such a good deal until you look at the Super Pack of bundled software that comes with it––courtesy of Atari UK. It includes 18 fairly recent arcade games (*Test Drive, Arkanoid II, Black Lamp, Ikari Warriors, Roadwars,* etc), three sports games (*Seconds Out, Summer Olympiad '88, Eddie Edwards Super Ski), Organizer* (a productivity package), a CX40 joystick and Silica Shop's own Starter kit that includes *1ST Word, ST Basic,* a spelling checker, 4 more games, 5

disks of public domain software, and a mouse mat. Sound better? How would it sound if I told you that price didn't include a monitor? The SM124 is 99 pounds ($170) if bought with the computer, more if purchased separately. The SM1224 is 299 pounds ($500) and that's the regular price!

You can get a 520STFM cheaper. Silica Shop offers a 520STFM Explorer Pack for $500. With that you get only a tutorial program, some desk accessories, and the Starter Kit. Some of the competitors offer the same Atari Super Pack for the same price as Silica Shop, but Compumart will also throw in a free Fugi DL 10 camera kit and 10 free air miles (read on to see what that means!) while Ladbroke offers the same pack for $670 including VAT, but doesn't include an equivalent to the Silica Shop Starter Kit. Computer Express offers the Super Pack for $540 with their own version of the Starter Kit, but that price doesn't include VAT or delivery charges.

Yes, it is still possible to buy the bare system, but only by purchasing each component separately and it's more expensive that way. In case you're wondering, a Mega ST4 costs about $1800 and that includes the monochrome monitor.

Identical Prices

From what I've seen of the pricing structure, I suspect that all of the stores are charging identical prices for Atari computer hardware. There doesn't seem to be any discounting even among the mail order firms. The software bundles are where the discounts occur; that and the free cameras and such. It makes it very confusing trying to decide where you are likely to get the best deal.

The Bundle Wars

Atari isn't the only company to employ the bundling scheme. Commodore decided to try it as of Christmas of last year and it appears to be working. Silica shop reports

that Amigas have been outselling Atari STs by a 5:3 margin over the last four months and the new Amiga package deals are the reason why. The struggle has taken on epic proportions and is already known as the "bundle wars" by the UK computer press.

Commodore's current package reportedly has Atari concerned. Commodore offers an Amiga 500 with TV modulator, three games (*Roger Rabbit, Nebulus*, and *Star-Ray*), a paint package called *Sprit,* and 500 free air miles for $900. No, not 500 miles on your frequent flier club, but a round trip airline ticket to the destination of your choice (up to 250 miles one-way). Or you can use it as credit toward a trip to a more distant destination. It seems to have had some success, though what air travel has to do with computers isn't clear.

The overall marketing strategy of both companies has so confused the issue that some writers who are sick to death of the bundling brinksmanship are suggesting Atari should bundle Amigas (and vice versa) and be well and truly done with it. They seem horrified by the prospect that the continuing upward spiral might eventually push the value of the bundled software past the retail price of the computer hardware--as if that might destroy the rational basis for the computer itself.

But what about software, you ask. Well, the picture there is partly cloudy. The Brits are still waiting for *Calamus*, though it is set to debut any day now. There was a big Atari show scheduled for 23-25 June at Alexandra Palace and it is supposed to be on sale then. It seems Atari UK owns the UK rights, and with one thing and another the scheduled release kept slipping. Some suppliers were actually ordering copies from US distributors and selling them over there at a profit (of course). The official price of the UK version will be 460 pounds or about $825 so there is a lot of room to maneuver. The rumor was that the US version won't work on Brit STs.

One source stated that a buried copy protection scheme in the US version of *Calamus* actually checks for the US TOS ROMs before loading the program as a means of preserving the UK market. Whatever the beef, an exclusive distributor (Signa) has now been appointed and the product is almost ready and should appear RSN (real soon now).

Signa has also secured distribution rights for Ditek's *DynaCADD* which became available in May for a price something over $800 with VAT.

Publisher ST Update?

Calamus isn't the only desktop publishing package in the UK, but it's touted as the first really professional package to appear there. *PageStream* is offered in some stores, but wasn't getting the play in the press that *Calamus* enjoyed. There was reported to be an updated version of *Timeworks Desktop Publisher* too, but I was unable to confirm it.

Hand scanners are all the rage. I counted four different models for sale--some with a resolution of 400dpi and 32-grey levels. With OCR (optical character reader) software, one highly thought of model sells for $1025 or $710 without the OCR. Neither price includes VAT.

In a continuation of the bundling scheme, Atari UK reportedly intends to begin bundling a scaled-down version of *HiSoft Basic*. It will have all of the command syntax of the full-up version, but won't allow programs to be compiled to disk as stand-alone executable files. It will also have smaller function libraries.

Metacomco, a UK Atari language producer whose products have reached the US to mixed reviews is apparently calling it quits. They are reported to be negotiating with another company to take over support for their products.

In the word processor arena, *Protext* is being advertised as the be-all and end-all entry in the high end of the market. *WordPerfect* hasn't taken hold in the UK the way it has here in the US. *1STWord* and

1STWord Plus appear to be the word processors of choice for almost everyone--challenged now by *Protext*. I have to admit the features look appealing: box and block manipulation, on-line disk utilities and help, exec files, 10 built-in keyboard languages, multi-line headers and footers, macros, variable line spacing, proportional right-justified text, infinite ruler lines, cut and paste operations between two different documents in memory, typewriter mode, on-screen text attributes, real-time spell checker, built-in print spooler, and automatic reformatting.

Game of The Year?

Games? You want to know about games? How about *Populous*, dead certain to be the ST game-of-the-year in Europe. *Populous* is by the UK branch of Electronic Arts, and is not scheduled to be out in the US for another month or so. It's a crazy strategy game where you play god in hundreds of different worlds, each more challenging than the last. You, as a divine being, encourage your followers to settle on level ground and be fruitful and multiply. As your followers grow strong and their numbers increase, so do your powers wax mighty. You will need them too, for in the nether regions the evil one has his own followers and they spread like a festering blight across the face of the land. It is altogether fitting that you visit them with terrible storms, towering tidal waves, and rending earthquakes to reduce their dark towers to rubble and drive them naked and abandoned into the open where they quail before your wrath. The powers of the evil one rival your own, however, and his followers will lay waste to your fair lands if your divine attention slips just a little. It's enough to feed your egomania for months!

The graphics are spectacular, the concept bold and imaginative, breaking new ground for computer strategy games. It's actually animated! But don't plan on rushing off to
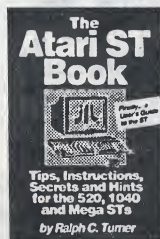
England to buy it without reading on. The peculiar copy protection employed in the UK version might mean the game won't work at all on your 520ST. 1040's and Megas should have no problem as long as they have a color capability. However, if you have a 520ST with only an external drive, the UK version of *Populous* won't work on your computer at all. The copy protection requires that you have an internal drive!!! The US version won't have this requirement, I understand. Look for a full review of this fascinating game in a future edition of Current Notes.

Another popular game is *Archipelagos*, a strategy game in which you must destroy the remnants of an ancient evil and rid the islands of the poison that is the legacy of a terrible sin. *F.O.F.T* (Federation of Free Traders) is supposed to be a space game that goes *Elite* one better, but the reviewers in several UK magazines suggest the designer got so caught up in improving the graphics that he lost sight of the original's lasting appeal. Not a lot else caught my eye, except for a few German games offered for sale in the UK. (Looks like the Germans design games after all, they just don't want to litter their own stores with them). The graphics were spectacular, but since the ones I saw were arcade games and my reflexes gave up the ghost years ago I couldn't say whether they were challenging or not. (In my book, the GEM desktop itself is pretty challenging).

It was an interesting trip, comparing the Atari markets in a couple of (hopefully) representative locations in two different countries during the same time frame. I learned a lot from it, but I don't expect it to do me much good the next time I go back. The Atari market in Europe is quite dynamic (just as it is here) and, I think, very healthy. The US is not as far behind the software power curve as I had supposed since we seem to be the export market of choice for quality software from both Germany and England. I find it encouraging that we are getting some German software even before the Brits. It's another real indication of where the Europeans think the US Atari market is going.

Mission Impossible?
Not With A Well-equipped Hero
By Brian Miller

Your mission should you decide to accept it is..... To rescue the beautiful, yet hapless Princess Pulchra, who has been kidnapped by the evil Wizard Baldur. She is held hostage in the bowels of a dark, dank, and extremely dangerous dungeon.

This is your first crack at the job, so you create your "IMF" character using a judicious blend of all the available hero traits. You give him a bit of strength and a dab of dexterity. You know that having intelligence couldn't hurt, and you value a healthy constitution, so you give him a generous portion of each. Finally, you realize full well your guy ought to be able to take a few blows, before he is down and out for the count, so you make sure he has a fair number of hit points before you're through. You name your creation "Barney," because other than Jim Phelps, he's the only Mission Impossible character whose name you remember. But you can call him Biff or you can call him Bub, because the reference to the old T.V. favorite was my contrivance. The game I have described is called *Hero*.

You take a deep breath, utter a quick prayer for a successful mission, and click the play button to begin. Instantaneously you are transported to the upper most level of the dungeon. You quickly take in the scene. You see your man with sword in hand. You spy a flagon of potion and a scroll, that are bound to be needed before you're done. You ease the joystick to move your character towards the center of the dungeon to claim them for the journey.

Suddenly, from thin air a monster pops into existence. He wields a sword so huge, it makes Barney's look like a toothpick in comparison. You frantically struggle with the joystick, hoping to position your man for a counter attack. Alas, it's too late. A rather unfriendly gem box tells you what you've guessed already. Your hero is *dead meat.* Barney's puny sword is mangled, almost beyond recognition, and you think you see what must be computer blood oozing from his wound. After pressing the mouse button over his remains, you are presented with verification of his demise.

With any luck, you may have lasted 15 to 30 seconds your first time out. You reload Barney, giving him another chance. This time more than one monster descend upon Barney, almost immediately. He is *toast* again.
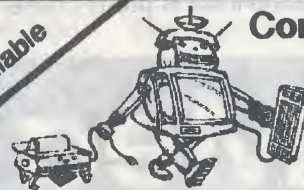
So what is this *Hero*, a thirty to forty dollar Graphic Adventure clone of *Dungeon Master*? Not quite. *Hero* can be found in the Public Domain. I downloaded it from Genie and it is available in the CN library. The graphics are adequate for game play, but nowhere as realistic as you would find with many commercial games.

Hero is written by Dan Winslow in *GFA Basic*. He asks for a contribution of $10.00 to the "Winslow Programming Fund" as justification to his wife for all the time he spent writing the program. Mr. Winslow states that paying this small fee will entitle you to a Dungeon Construction Kit. You will also get a book of hints which he claims are almost certainly needed, to get beyond the second level of the dungeon.

In my case, I couldn't get through the first door before my hero was impaled, slimed, or otherwise turned into monster food. But then I have the reflexes of a slug, so your luck may be better.

Is *Hero* worth getting? Considering how small an initial investment you would have to make, I can't see how you can go wrong. If your luck is no better than mine, after giving it a go, you can always use the disk to store your next game of *Dungeon Master*.

Hole-In-One Minature Golf

(Tantalizing Torture)

Review by Don Elmore

The second to the last sentence in the *Hole-In-One, Miniature Golf's* flysheet of instructions states, "We think (it) will provide you with hours of enjoyment." No puffery or editorial largess there. The game box credits claim a combination of excellent sound, quality graphics and superior playability. Well, I'm not particularly big on the sound side, but I do like the graphics and playability. DigiTek Software has produced a miniature golf game that can handle up to four players at a time and can be played by both children and adults with little practice or training. Notice, please, that I said "played," I certainly did not say "won." That takes a lot more skill or an inside track with "Lady Luck."

Not So Hilarious. My only criticism of the box propaganda is that DigiTek claims "hilarious fantasy holes." Well, I have developed a few choice adjectives to describe some of the holes, and believe me ... neither hilarious nor fantasy are among them. Frustrating, perhaps, devilish, certainly, impossible (?), maybe even that.

The game is well presented, the instructions terse and to the point. Your normal view is from overhead and the play is relatively simple. Using the left mouse button, place the ball on the starting pad, click and stretch a line from the ball toward the hole (or the bank you want to hit). The longer the line, the harder the shot. Click the left mouse button again and watch the ball zero in on the hole (you hope). The colors indicate the contour of each hole, higher ground using a lighter green, lower ground, darker. The Options Menu has a "Contour" choice (on certain, selected holes) and clicking on that option gives

you different perspectives showing the hills and valleys of the hole. You can also use that feature by pressing the "C" on the keyboard.

Par, Over Or Under? In the Project Menu, clicking on the Score option will bring up a comprehensive scorecard, showing not only your current score, but also how much over (or under) par you are, as well as the names and pars of each of the eighteen holes. There is also a "Retry" option that permits you to repeat the last shot...and this is good for practice runs ... not so neat for competition play. And if you feel (as I have from time to time) that the "Force" is simply not with you, you can hit "Quit" which takes you back to the title screen where you can begin again.

Oh, I forgot to mention one of the really neat features (with which I am not very familiar). The game is a two disk game. Disk #2 consists of course #2 ... more hilariously fantastic holes. The only catch is that in order to be able to boot disk #2, you have to finish the first course at (or under) par! Needless to say, I have only glimpsed disk #2 once or twice. Well, really only once. And that was purely a fluke; somehow I managed to only "bogie" #18 and came in with an overall par. The program does not encourage duffers! You are allowed up to a triple bogie and then you get an "Over Stroke Limit" message and you are moved on the next hole. (You also accrue a one stroke penalty for that particular maneuver). You can also pick up a stroke penalty for landing in a

water hazard, and three of the holes boast wet spots!

So, how about the holes? Well, for me, they vary from hard to impossible ... and then some. As with most Atari games, I manage to get things turned around. On some of the par 4 holes, I come in with an eagle. On the par 2 holes, I can easily finish with a double-bogie? But that is because the par 2 holes are really crazy. Number 11, "Magic" is a perfect example. It consists of five separate islands, connected underground by tunnels, and is a par 2! I have managed to bogie it sometimes, and that is like a par on other holes. The contoured holes often give me fits ... but sometimes I get lucky. If I can reach the 18th hole at least three strokes under par, then I have a bare chance of exiting with an overall par. I did that once, and managed to attempt course 2. The graphics are quite impressive and I am quite happy with the game. Doesn't mean that I would spend every free hour playing it ... but it has become one of the main games on my shelf. I have seen *Hole-In-One* listed for as low as $19.95 by one of the advertisers in this magazine. It is well worth the price.

Digitek Software, 8910 N. Dale Mabry, Executive Center, Suite 37, Tampa, FL 33614 (813) 933-8023.

The ST Tool Box
by
J. Andrzej Wrotniak

Scientific Computing on the ST

Four years after it was introduced, the Atari ST is still an attractive combination of power, features and price. Maybe the machine itself is no longer so close to the cutting edge of technology, but––on the other hand––having reached a mature age, it has started enjoying the availability of some very decent software.

No wonder, since a relatively large group of ST users are scientists, engineers and students, who, often being on a tight budget, want to achieve the best performance-to–price ratio accompanied by a civilized working environment. Some of us (I am in this lucky number) are even able to use the STs at our place of work.

Let us have a closer look at the advantages, disadvantages and possibilities of the ST computers in scientific applications.

Typical applications

In most cases scientific computing is equivalent to programming. Usually not much attention is paid to the user interface (many such user-written programs will not depend on GEM at all)––just get the initial data and produce numerical results, that's all (unless some graphic output is required, but the plots can often be done with a separate program). The typical user will be a person knowing his/her area of science or engineering, with some computer literacy and knowledge of programming, but not necessarily a programming wizard. For example, 20 years ago it was still possible to meet a physicist who couldn't program; virtually all of us born after World War II had to learn it or perish.

A typical application may contain sub-problems as, say, solving a set of differential equations, integration in a multi–dimensional space, or a Monte Carlo simulation of a process. Another important group includes the statistical processing of experimental data. The chances are that you will not find an off-the-shelf program to do what you want––you will have to program it yourself.

A purely instrumental approach to programming, just as a tool to solve a scientific or engineering problem, can often lead to a complete neglecting of sound programming practices; some of the ugliest code I've ever seen was created by some of the brightest men I've ever met, in some of the best science departments and research labs (there are, of course, exceptions).

Tools of the Trade

Subprogram Libraries. As I have said, our problems can seldom be solved by running a complete off-the shelf program. On the other hand, many scientific applications incorporate the same, more or less standardized, elements, as linear equation system solving, matrix inversion, interpolation, curve fitting, pseudo–randomnumber generation to name just a few. Most of these typical elements are available as library subprograms. Some collections of those are well–established in the scientific computing landscape, often available for free. Examples include the Linpak linear algebra package, CERN (European Center for Nuclear Research) math library, or the commercial IMSL (huge, expensive and *very* complete).

You may also find some libraries of more narrowly specialized routines, like those for finite differences analysis, or quite exotic ones, like my own SHOWERSIM for simulation of cosmic ray showers (with just 25 or so users scattered around the world).

These libraries usually come as the FORTRAN source code. You recompile the selected subprograms and link them to your program, often using the black–box approach, with no modifications whatsoever. Of course, you can modify the source, but, especially with the well–established libraries, you can gain a little and risk a lot.

Some libraries are available in languages other than FORTRAN, notably Pascal and C, but the choice is *much* more limited; the amount of library code available in FORTRAN is at least ten times larger than in all other languages together.

Algorithms. There are some good collections of general scientific (mostly numerical) algorithms available in a book form.

The best one (and by far in a class by itself) is *Numerical Recipes: The Art of Scientific Computing* by William H. Press *et al.* (Cambridge University Press, 1986). The book can serve as a handbook for learning numerical methods. It is also witty and readable, and all algorithms are implemented as FORTRAN and Pascal routines with complete, commented listings enclosed. A full C version is available as *Numerical Recipes in C*. The programming style in all three languages is consistent and good (the latest version contains the most readable C code I've seen). The only thing I am missing here is a more detailed coverage of the statistical methods (but this would require a separate book of almost the same size).

If you have any need for numerical algorithms, go and buy

this book; it is expensive (around $50) but indispensable, and if a poor immigrant like myself could afford two copies, then you also can afford one. Lazy typists can even buy all the source code on a floppy. I was, frankly, quite surprised to see a *Numerical Recipes* ad in the June issue of *Current Notes*. They may sell fewer copies than the *Dungeon Master*, but, yes, we use the STs for the right stuff, too.

A slightly newer offer, *Numerical Methods and Software* by D.Kahaner *et al.* (Prentice–Hall, 1989) contains a review of some of the more recent algorithmic approaches, but there seems to be a more remote correspondence between the text and the FORTRAN code (enclosed on a 5–inch floppy). Most of the routines are borrowed from scientific libraries (some slightly simplified and provided with easier–to–use interface subprograms); you will not learn much from studying the code itself. The book is still quite good (better than most), useful and worth having, but if you need just one, go for the *Numerical Recipes*.

There are some good books on the subject of statistical methods (for example, I find *Basic Statistical Methods for Engineers and Scientists* by J.N.Kennedy and A.M.Neville worth recommending), but none of these provide both the completeness and the computer–oriented approach we would like. If you know of one, let me know––I will share the information with the other Readers.

Compilers

There is a dual choice scientific/ engineering programmers are facing here. First, we have to choose a language, and then its implementation.

It was, I think, Professor C.A.R. Hoare, who said once (I am quoting from memory): "We do not know what the most commonly used programming language of year 2000 will look like, but its name will be FORTRAN". Yes, with a huge investment in the existing scientific (and other) software, and the FORTRAN evolutionary adaptability (the "8x" standard to replace "77" is now in the final stages of development), he might be right. The campus people who plan to buy an Atari ST keep asking me: "Is there any decent FORTRAN for this machine available?".

FORTRAN. The general problem with FORTRAN is that it is an ugly language. On the other hand, it is quite good for numerical and scientific applications, and its widespread use makes it a virtual standard in this field. Everybody is complaining about FORTRAN (even those who learned is as the first language), and everybody is using it, getting things done.

We, the ST users, are quite lucky here: both *AC/FORTRAN* and *Prospero FORTRAN* are good contenders. AC/FORTRAN has an edge in compiling and linking speed, but the produced executable code is equally fast for both (see my benchmarks in the March issue). The Prospero programming environment is better (it is simply nonexistent in the AC implementation; the *AC–FORT* menu–and–mouse driven shell I wrote may be of some help––if you want a copy, ask our Publisher and he will put it on a *CN* Public Domain disk).

Prospero FORTRAN has a nicer (and better–documented) set of GEM bindings, it is also linker–compatible with their Pascal and C compilers, so that mixed–language programming can be done easily (e.g. linking FORTRAN scientific routines with graphics code written in Pascal). If you do not care about GEM or mixed–language programming, however, then both implementations are very good choices.

Pascal. Those who insist on scientific programming in Pascal have a choice between *OSS Personal Pascal* (distributed by ICD, if they have not dropped it from their product line, which I suspect) and, you bet, *Prospero Pascal*. There are some other implementations, including the interpreted *Alice Pascal*, but the real choice is between these two.

The OSS implementation is a nice introductory package, suffering from some limitations in the program modular structure (this is quite important in the scientific programming area, remember, libraries!). It also has a naughty bug: the compiler will not accept, say, a standard Pascal construct with a procedure **Integ(Fun,a,b)** where **Fun** is a procedure or function. This is a common usage in scientific applications and the inability to clean this thing up (or to inform the registered users about having done so) virtually disqualifies the product from the kind of applications we are discussing.

The Prospero Pascal compiler slowly emerged as a standard for the ST. It contains many useful extensions, making Pascal a very usable language (strict standard Pascal is good for almost nothing except classroom work, and can be quite irritating even then). Although it is still not as good as *MacPascal* or the *Macintosh Turbo Pascal* (both beating it where it hurts most, namely in the area of modularity), it is now the best Pascal for our machines.

C Language. What about programming in C? There are three good C compilers available: *Laser C* from Megamax, *Mark Williams C* and––what else? ––a *Prospero C*. Forget about the original *Alcyon C* compiler, take it to the nearest abandoned mine shaft and let go, and then choose something better.

Putting all other differences aside, for scientific programming Prospero, again, has an advantage: it implements the current ANSI draft standard of C (the pre–ANSI libraries will still compile and run OK, do not worry). This makes programming much less error–prone, especially (but not only) if you are not an experienced C programmer.

The *Turbo C* compiler is available for the ST in Germany: lean, mean and ANSI–compatible. Very

highly praised by those who tried it, it is not marketed in this country. We are one fun–living bunch of game players, remember?

BASIC

If you suspect I have arranged the languages in the order of their decreasing suitability for scientific programming, you are right: BASIC comes last. Even the so–called "structured" dialects (and this term is often stretched) offer a very limited modularity. The latest *GFA Basic V.3* has much better procedure/function features than Version 2 (where they were, mildly speaking, not adequate), but this still does not make it a good language for our purposes. From this point of view the new *HiSoft BASIC* is not so much different.

Let me not be misunderstood: you can do a good deal of scientific programming in *any* language, even in assembly, and I have once seen (other places, other times...) a Commodore 64 running some *very* advanced scientific computations in cosmic ray physics in its exceptionally ugly BASIC, but here we are talking about not what is possible, but what is best.

The new ANSI standard of BASIC, implemented (with minor differences) on the ST as the *True Basic* can be better––at least for scientific applications––than the other BASICs. It has *very* clean syntax and strong modular/library features, so that you can build your collection of algorithms encapsulated as library routines, and very many *True Basic* libraries are commercially available (linear algebra, statistics, 2– and 3–dimensional graphics and others).

What stops me from a warmer recommendation of *True Basic*, is a nasty little bug I have discovered in some of its arithmetic operations. After having isolated the responsible lines of code––and this took me almost a day––I have promptly sent the bug report illustrated with a 3–line program to the True Basic Corporation. This was more than

two years ago; one would expect at least a "thank you, we are working on it" note––but these folks did not react at all (no updates, either). Remember what can a spoonful of sewage can do to a barrel of wine?

If BASIC is not the best language for scientific computing, then it may come quite handy in the graphic representation of our results. To plot anything from programs written in the other languages, one has to do some moderately painful GEM operations (and to learn how to use the GEM/VDI Library in the first place). On the other hand, a program reading an ASCII data file (produced by another program, possibly written in another language) and plotting the results on the screen, can be written in most BASIC dialects in quite a few lines of code. The screen image can then be dumped to a printer, and voila!

For this quick–and–dirty (or even not–so–dirty) graphics, all three BASICs discussed above are quite fine; even the *ST BASIC* (new or old) will do the job all right.

Other ST languages

Modula–2 is a language based on Pascal, with strong modular features, but also with some irritating limitations (this is something I can talk about, after more than two years of use). Indeed, the extensions present in Pascal implementations for the MacIntosh make me wonder whether we really need a Modula–2. The new Extended Pascal standard could make Modula–2 obsolete before it even gets a stronger hold in the programming community. The *TDI Modula–2* for the ST looks good at first glance, but the implementation is quite messy (at least it was a year ago, when I last checked) and does not deserve recommendation.

There is now an ST version of the *APL* (A Programming Language), designed with science/math applications in mind. APL is a way of life, not just a language. You either love it or hate it––at least

that's what people say. Nevertheless, the language never was widely accepted. Having no experience with APL whatsoever (other than browsing through the manual: "different" is the right word), I can only say I wouldn't like Joe's daughter to marry an APL programmer.

Waiting for Ada...

And, last but not least, the language which some people call the best thing of them all, and some others––the worst rip-off of the century: *Ada*. It is a relatively new language developed for the US Department of Defense for the programming of large software systems. The language is, unexpectedly, making quite a break in scientific applications, and I can understand why.

Ada is a language from the Pascal family, very powerful, very modular, very structured and strongly typed, but without the associated limitations. If anything can force FORTRAN out of the No.1 position in the scientific applications, it will be not C, not Pascal or anything else, but Ada. Listen to me now and believe me later, this language *is* the wave of the future. After having done quite a lot of Ada work since 1987, I am *very* happy with it. At the Ada classes I am teaching, I have converted to this language some hardcore C–and–Unix types, and these guys are tough!

Unfortunately, the language is *big*, and I can't yet imagine an Ada compiler running without a hard disk and at least two (or preferably four) megabytes of memory. The chances of having an Ada implementation on the ST are very, very slim––but what about the (supposedly almost ready to ship) 32–bit Atari TT? If there is a choice of four different Ada compilers for the IBM PC and clones, why shouldn't a *good* machine have at least one?

Hardware

As we are talking about computing on the Atari ST, there is not

much choice left here. A two–floppy system seems to be a minimum, with 1 Megabyte of memory recommended, at least for more serious applications. Those of us who have only a color monitor should consider spending an extra $160 or so for monochrome. There is simply no comparison in the image quality: long editing sessions become much less tiresome and the graphics is *much* better. Also get the *Monitor Master* switching box––replugging the cables before and after each session of *Lord Chaos Strikes Back* may damage the connections.

Some of the scientific and engineering applications do not use much of the CPU time, and for these our Atari ST is a machine better than anything in and beyond its price range. Some other applications, however, may do a lot of floating–point (i.e. non–integer) number–crunching, and this is where our *wunderkind* has a weak spot.

A humble IBM PC/XT or clone, running on its feeble 8086 processor and having problems with handling more than 640k of memory, can be equipped with the 8087 floating–point arithmetic coprocessor (about $120, while an 80287 chip for a PC/AT costs about $240). In most of the scientific applications it is like putting a Ferrari engine into a Yugo: some operations can be speeded up by a factor of 20 or more! Sorry, in this performance–to–price comparison our STs are far behind.

The Motorola family (to which the Atari's 68000 chip belongs) has its own floating point engine: the 68881. Unfortunately, it cannot be just plugged into an empty socket; some extra circuitry is required and our ST has no provision for this. There is an Atari floating point board for Mega ST, but Atari doesn't make much noise about it, and what about all the 1040 and 520ST users?.

There are some third–party floating–point coprocessor boards for the ST available in Germany; one of them is being distributed in the USA by Prospero. (Maybe I should

change the title of my column to "Prospero News"? No, I am *not* on their payroll.) At $450 it is quite expensive and, as with any coprocessor of this kind, a program will take an advantage of the extra hardware only after being re–linked with a special math library (this means, that your choice of compiler will be limited). Still, if the floating–point speed is critical for your application, this may be a reasonable way to go.

I am borrowing one of these babies from Prospero to give it a try on my 1040ST; if everything goes well, there will be a hardware review in the September issue of *Current Notes*. After that I am going to send back either the board, or a check.
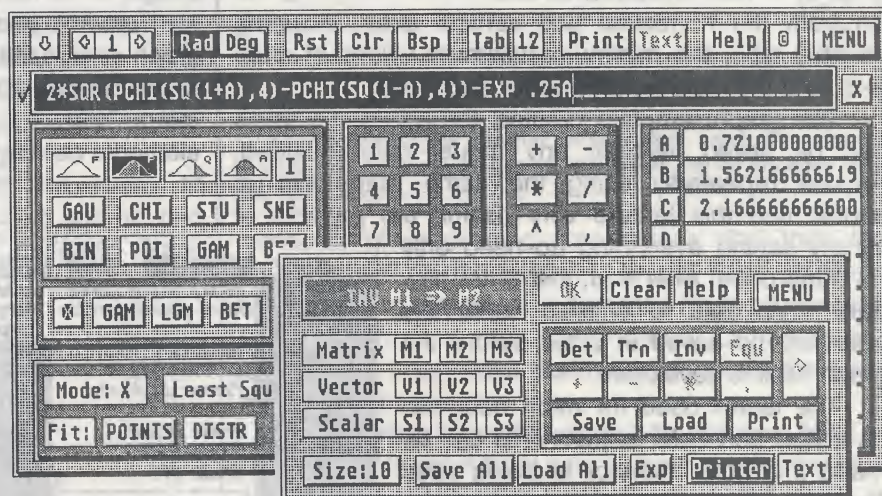
Have an ST, will compute!

To add all this up, our ST is a decent small machine for scientific applications: nice user interface, availability of good programming

tools, quality graphics. The PC–clones have the advantage of being able to use the floating–point coprocessor, but this is significant only in the more time–consuming applications, and, besides, we are catching up in this area, too.

Without the floating–point coprocessor advantage, it takes a lot of money to beat the ST performance on a PC clone: a PC/AT running at 8 MHz is just less than 10% faster in numerical applications than our Atari (both benchmarks compiled with the Prospero Pascal compiler). This is nothing to be a shamed of!

There are some people out there, doing lots of scientific computing on the Atari ST: check Topic 16 in Category 6 on GEnie. The discussions are not too hot (on average one message in two weeks), but this is where you can meet the ST users sharing common interests. Tell them I've sent you!

Graph Maker

Create Pie, Line, and Vertical Bar Graphs

Review by Bill Moes

Graphs are an important way to convey information; they offer an easily understood visual form. Computer programs to create graphs and charts have long been popular. And now there's a new one for the ST.

Graph Maker creates three types of graphs: line, pie, and vertical bar. It includes some unique features that aid in the design and use of those graphs and charts. There are two ways to begin a graph, and this exposes one of the more useful features of the program.

Editing Options

What amounts to a graph "template" can be created first. This template includes basic information, such as the main title and subtitles. On bar and line graphs, it also includes details

GRAPH
Load Graph
Edit Graph
Edit Labels
Edit Options
Save Graph

on both the horizontal and vertical axes, including variable type, the minimum/maximum values of each axis, and the increment value for each axis.

The graph template created through these steps can be saved, without any actual data included. Anyone repeatedly using the same graph set-up should find this feature very useful: the process of initially setting everything up need only be done once. After that, just enter new data. That data is entered separately and may be saved in a file before the graph itself is developed.

The labels used for each item can be edited and color adjustments can be made if a color monitor is being used (medium resolution). Three line thicknesses are available for line graphs and any text used for labels can be altered

PRINT
Print to Screen
Print NEO File
Print DEGAS File
Print to Printer
~~~~~~~~~~~~~~~~~
Install Printer

for size and style. These text sizes and styles are the standard G E M options.

It's also possible to eliminate the line from a line graph or the fill pattern used in pie or bar graphs. This offers the opportunity to color in the lines/bars/pie segments after they have been printed, or to use custom fills/lines if the saved graph (Degas format) is later loaded into a graphics program.

Data and Clip Art

When entering data, additional information for the subtitles can be included, along with the actual data entries. Up to 90 data entries are available per graph.

TEXT-ART
Write Text
Plot Text
~~~~~~~~~~~~~~~
Clip Art Options
Plot Clip Art

Graph Maker offers the opportunity to include clip-art on the graph. This clip-art must be PrintMaster format. Although only a few illustrations are included on the *Graph Maker* disk, many other PM icons are easily found, including those on public domain disks (CN ST Library disk 320).

After a PM icon is loaded, it can be edited, although this pixel-by-pixel process is a difficult and tedious affair. A more useful feature is the the ability to flip (upside down) or flop (left-to-right) each clip-art image.

The PM images can be moved around on the graph screen, although the size cannot be altered. An X-ray feature allows the clip-art icon to cover up or merge with the graph image. Up to five clip-art elements can be available at one time.

ADESK	PROGRAM	GRAPH	DATA	TEXT-ART	STYLE	PRINT
	About GRAPH MAKER*		Load Data		Show NEO Background	
	Read Documentation		Enter Data		Show DEGAS Background	
			Save Data			
	Directory				Show Defined Text	
	Delete File				Show Clip Art	
	Format Diskette				Merge Data File	
	Erase Graph				Display Grid	
	Erase Data				Display Set Colors	
	Erase All				Display Halftone	
					Display Reverse Halftone	
	Quit GRAPH MAKER™				√ Line Graph	
					Bar Graph	
					Pie Graph	

Graph Maker. This is the screen most often seen. When the graph is printed to the screen, the screen shown will scroll upwards and the actual graph will follow. Also above, three menus are shown, illustrating some features of the software.

"SALES by REGION"

MODEL _____1040ST   QUARTER _____4th

REGION 3
7.5%
48

REGION 10
13.28%
85

REGION 4
14.69%
94

REGION 7
4.84%
31

REGION 2
11.41%
73

REGION 6
6.88%
44

REGION 8
10.94%
70

REGION 9
5.47%
35

REGION 1
9.69%
62

REGION 5
15.31%
98

NUMBER ONE
REGION

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A Pie Graph. Two clip art icons are displayed. Note the pie segments keyed to the main graph. Up to 12 segments will be automatically keyed with each pie graph.

Other Options

A separate Degas– or NEO–format screen of any resolution can be loaded as background for the graph you create This may be a useful feature to some. If it's to be effective, care and planning will be necessary to achieve the desired effect.

Although all entered text strings will change if the style/size is altered through the menus, there is a way around this. With the modular nature of the software, it's possible to save a graph as a Degas file, load it back as a background, and vary the text to be placed on that background. Also with these steps, more than five different clip–art icons could be used.

For text, it may be easier to load the graph (Degas file) into a graphics program and use the better text handling features of that graphics program.

Other features available include the ability to merge data files, display a grid on line/bar graphs, and display the graph (on monitor) in halftones (grey

"HOUSING STARTS"

DEVELOPMENT _____QUAIL RIDGE   YEAR _____1989

HOMES (single unit dwellings)

The "WOOD DUCK"

JAN FEB MAR APR MAY JUNE JULY AUG SEP OCT NOV DEC
MONTH

©1989 ARTISAN SOFTWARE

A Vertical Bar Graph. One clip art icon is shown. The fill patterns shown are standard, but fills may be eliminated and custom fills or colors may be added within a separate graphics program.

shades) or reverse halftones (white on black background). It's not possible to save the images in halftones/reverses, unless a "snapshot" accessory is used.

A pie graph will have up to 12 slices keyed by label and percentage, a useful feature. And text strings can be entered and placed anywhere on a graph.

Although some adjustment may be necessary, it's easily possible to switch from displaying one type of graph to another. Usually, though, only one graph style is appropriate for any specific purpose. A pie graph, for example, may not be the proper choice for some types of statistics.

It's Show Time

To see a graph on the screen, it's necessary to use the menu selection, "print to screen." A few

"LISTENING AUDIENCE"

QUARTER _____FIRST   YEAR _____1989

LISTENERS (thousands)

429 876 924 341 728 474 790 318 628 372 996 165 89

RADIO

©1989 ARTISAN SOFTWARE

WEEK

A Line Graph. The line may be eliminated. Later, a custom line or a line with color may be added. The 'credit' line on the rightr edge may be customized.

moments of processing time elapse and then the graph scrolls up the screen. I would have preferred always seeing the graph, rather than having to select it each time from a drop–down menu. Or, perhaps a function key could have been used as an alternative to the mouse for this step.
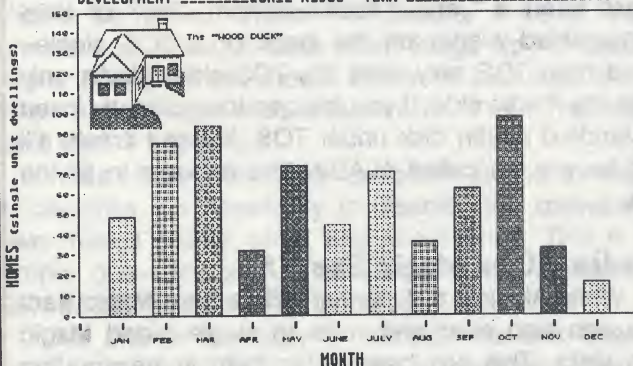
It's possible to print the graph to disk as a NEO or Degas file. *Graph Maker* runs in both medium (color) and high (monochrome) resolutions, so the ability to save in NEO format may not, currently, be of any real use. (The *NEOchrome* software program now only uses low resolution, which *Graph Maker*, unfortunately, does not support for the creation of graphs.)

A graph can be directly printed, if the printer works with the ST's <ALT>/<HELP> screen dump. *Graph Maker* also includes features to "install" a printer, format a disk, delete a file, and see a disk directory, all from within the program.

Aladin, V3.0

A German-Built Mac Emulator
Review by Bill Hand Jr.

I have the Magic Sac and was considering upgrading to a Spectre when I saw an intriguing advertisement for a Mac emulator called "Aladin" in a London ST mag. When I rang for info, I was surprised by a salesperson who was extremely helpful, technically knowledgeable and friendly. As it turned out, he was Mike Dale, owner of Signa Publishing––the firm handling the UK marketing of this German-built product. I stopped by to see it in action and immediately plunked down the 200 pounds (plus tax) for version 3.0 with Mac ROMs installed.

Before bringing up Aladin, you can run a TOS program to configure memory, disks, RAMdisk, and printer. All but around 200K of the ST's RAM is available. Hard disks are supported and fairly easy to install, and the RAMdisk is great. It can be configured from 0K (not installed) to your memory limit, in 32K increments, and will make itself the boot drive if you put the System folder on it. It will survive both emulated and actual system resets, and you can pop out to GEM and TOS applications and re-enter the emulator repeatedly without losing the contents. Aladin's Mac boots in a couple seconds from RAM.

The Printer configuration allows several printers to be used, including Epson MX, RFX, NEC P6 (180dop and 360dpi), and Atari Laser. Inside Aladin, the standard ImageWriter or LaserWriter drivers are used and the emulator translates the output automatically––this feature alone could be worth the price. Unfortunately, the list of supported printers is limited and the IBM printer I'm currently using isn't quite an MX. I was told that the Aladin people wouldn't provide any info on their driver format and would charge a lot to do one for me. Mr. Dale did, however, offer to lend me a printer for a week or so until I could work something out.

The manual is 51 pages with an additional 25 page appendix. It is concise and clear and will get the thing going pretty easily. Once inside the emulator, *Write Now!* is supplied with a number of tech notes, explaining various aspects of the emulation and extra features in more technical detail.

Aladin vs. Mac

As it uses the ST's monochrome screen, the area is about 30 percent larger than Mac's. They claim it is also from 20 to 35 percent faster and that certainly appears to be true. Disk access seems especially fast. HFS is supported (via *Hard Disk 20*). Several INIT files are provided to place in the system folder of your boot disk for enhanced features. One of these is Blitter support (although this is mainly used in tossing blocks of memory around for a 50 to 100 percent increase in disk efficiency––the Mac graphic routines don't much benefit). Another sets the clock from the ST. But my favorite two do SOUND. Really! One will send the sound as data (at 11 Mhz) to the printer port, where the Digital-to-Analog converter (that you can build from the schematic supplied in tech notes, 16 resistors, a Centronics and a Phono plug) sends it to your stereo. The other jams the sound (at about 7 Mhz) into the ST's 3 sound registers and plays through the monitor (with little or no apparent degradation to screen animation). Although neither method has the resolution of a real Mac, even the monitor version (although a bit tinny with some background static) is impressive and entirely functional.

Some versions of programs that won't work directly under Aladin (or on some Macs either) can be altered by an Aladin *Adaption* application. This patches the program to overcome those nasty direct references. They're also using this to allow Hypercard to run on the 64K ROMs. As they become aware of "problem" programs, they provide *Adaption* patch files to overcome them.

A *Gemload* program is included that allows you to insert standard TOS disks, check the directory, and port files over to Aladin format. It has the option of converting text from ST or IBM to Mac characters; *Degas*, *Degas Elite*, and *Doodle* (GEM screen image) to Mac picture files; and WKS spreadsheet files to Mac format (Excel, etc.).

When the disk initialization dialog box is on-screen, you can press ESC to get a custom box allowing 400K single- or 800K double-sided formats. It also offers a "Janus" format option––360K or 400K single-sided Aladin on the back of a TOS single-sided disk. TOS only sees the TOS side, Aladin only sees the Aladin side. If you happen to accidently insert a standard Aladin disk under TOS, it won't crash, it'll just have a file called ALADIN that appears to fill the disk.

Aladin 3.0 vs Magic Sac V5

While Aladin's disk format differs from Magic Sac, you can also read and write to single-sided Magic Sac disks. This has been a big help in transporting Mac stuff to a readable format––just breaking up my 800K Magic disks into 400K and using them directly. This also means that Happy's Discovery cartridge may

be used to go from Mac to Magic to use in Aladin. I'm told that Happy claims they will soon provide the software needed to go directly from Mac to Aladin double–sided disks.

My version of *StuffIt* wouldn't work under the Magic Sac and I had a few Stuff'd files that I hadn't been able to use. *StuffIt* worked from Aladin (off the same Magic disk); I un–Stuffed the files and can use them now from Aladin or the Sac. A few other programs that crashed under Magic Sac worked fine from Aladin; the only reverse case was *Switcher*. Aladin does provide an *Adaption* file, but it's not for the version I happen to have.

Unlike Magic Sac, there is no medium rez support for Aladin. Inexplicably, there is no code to exit if you're in a lower rez. The program tries to come up with a horrid double–image artifacted screen (oh, it was terrible). The easy answer is "don't do it."

Some time ago, I was able to follow part of David Small's progress in developing Magic Sac through PLATO's ST Notesfile, vicariously proud of his achievement. While I still believe the Sac to be a great hack, Aladin does seem to be a bit faster and more reliable (sorry Dave, but I'd feel more comfortable basing a Star Wars defense system on Aladin than on Magic Sac). The "look and feel" is more professional. But I can't imagine going to Mr. Small with the printer compatibility problem mentioned above without him attempting to solve it (or at least providing the info needed to patch it myself).

I also miss the Sac's abort screen (with debugging info) if something does go wrong. Aladin isn't any more useful than a real Mac when crashing. Fortunately, I've had trouble making it crash and even then the indestructible RAM disk survived and it rebooted to a healthy Mac in seconds.

A Peek Ahead

Signa claims that, in June, 128K ROMs will be available as an upgrade to registered owners and a card will be offered for the Mega's external bus to support AppleTalk. They are also producing an "A3" monitor––an 11 1/2 by 19 inch monochrome screen for properly written applications on Mega's, and Aladin will fully support that as well. Additional *Adaption* patches and printer drivers will be offered when available.

Aladin is a reliable Mac emulator with quite a few nice extras. It's a bit different from Magic Sac; better, but twice as expensive. If you want to "do a Mac" just for kicks, you'd do better with the Magic Sac. If you have a need for serious Mac applications, Aladin's definitely worth the investment. With the Discovery cartridge available to convert disks, I feel I have a better overall Mac system then the Mac's I've used. It now seems that I have two powerful machines on my desk, and all the advantages of both.

Aladin is available for 200 pounds (no tax when ordering from the US) from: Signa Publishing Systems Ltd., Trevenen House, Cricket Hill Lane, Yateley, Camberley, Surrey GU17 7BA. Phone: (0252) 874406 Fax: (0252) 871086. They will accept Visa orders from the States.

Graph Maker (continued from page 45.)

Other Notes

Whenever one of the graph or data entry screens is left, the software prompts to see if the graph or data should be saved. While this feature, if used, can prevent lost effort, it does slow things down. *Graph Maker* allows the left mouse button to substitute for a "No" and the right mouse button for "Yes." This may save time, if not data.

While the GEM–style program supports desk accessories, it's necessary to disable the software's own menus before using any accessories. This is a simple one–click step. The software was written in GFA BASIC (compiled) by Donald A. Thomas, Jr.

The disk is not copy–protected. The disk–based documentation (5,500 words) is minimal, simply explaining each menu item. The documentation does not mention that clip–art must be PrintMaster icons. No tutorials are offered, although three sample graphs are included on the disk and can be studied for ideas.

There is no control over fill patterns used, other than to have them or not have them. Any Degas–format backgrounds must be standard Degas, not Degas Elite. Finally, the software's price may seem a bit high.

Summary

Creating templates for often–used graph styles is one of *Graph Maker*'s real strengths. The detail work needs to be done only once. After that, the new data can be entered and quickly placed on a previously created graph format. And the use of PrintMaster icons for illustrations offers an easy way to add graphics.

Graph Maker v.2.00 ($59.95) doesn't offer the features and flash of a "search–no–further" software entry. What it does offer is a reasonably easy way to create three very popular and useful styles of graphs.

[Artisan Software, P.O. Box 849, Manteca, CA 95336]

HiSoftBasic
Two versions
Reviewed by Stephen D. Eitelman

Would you believe we now have another dialect of the Basic language available for the ST and it comes in two versions, to boot? Why? Well the answer seems to be that GFA decided it did not want MichTron to continue to be its US distributor, so GFA and MichTron parted company. MichTron apparently felt that it needed a Basic language in its software inventory for the ST, so it arranged with HiSoft (a British company) to distribute *HiSoft Basic* in the US. GFA continues to be available through The Catalog, part of the Antic/ STart magazine empire.

The two versions of HiSoft basic are called *HiSoft Basic* and *HiSoft Basic Professional*. Henceforth in this article, *HiSoft Basic* will be called *HSB* and *HiSoft Basic Professional* will be called *HS Pro*. The differences between *HSB* and *HS Pro* are in the extra options that come with *HS Pro*. The editor and compilers are the same. *HS Pro* unique options are:

o Stand alone compiler. For disk-to-disk compilation.

o Desk Accessory creation.

o Creation of user libraries. Provided one buys the DevpacST Assembler.

o Symbolic Debugging for including program symbols in the compiled file. A very useful tool for debugging really subtle bugs. Probably indispensable in some cases.

o Program profiler to show which portions of the program are used most of the time. This is a very powerful technique for deciding which parts of a program should be re-written in assembly if speed is a problem.

Another significant difference between the two is price. *HSB* retails for $79.95; *HS Pro* retails for $159.95. Substantial discounts are available.

HiSoft's major claim to fame is compatibility with *MicroSoft Basic* and *GW Basic* as well as other Basic's from the IBM PC world. By and large, this claim is substantiated, at least in the experience of this reviewer, provided the software was reasonably well written in the first place. More on the compatibility issue later.

Both HiSoft Basic's are compilers; there is no interpreter which means no interactive debugging. You write source code and click on either run or compile and the compiler tries to compile. If it finds things it doesn't like, it prints error messages and it is back to the editor again, but in an integrated environment, so

that there is no need to load the editor and compiler separately each time. The old cycle of edit–compile– link–run–crash has been considerably shortened. The cycle with HiSoft is now edit–compile–crash with the crash portion eased greatly by fairly comprehensive error trapping. By the time I got past the compiler errors, the test programs I was using generally ran properly. The combination compiler/linker operation is essentially automatic, which is a great improvement over earlier compilers. The resulting code can either be located in memory or can be compiled to disk and is fully stand-alone; there is no run-time library needed.

The source code produced by the HiSoft editor is in ASCII format, so that any ASCII editor preferred by the user can be used. More on the editor later.

Many compilers require fairly elaborate and often frustrating installation procedures. HiSoft is remarkable in its absence of ANY installation procedure! The only installation-related problems I encountered had to do with the size of the editor buffer and the program buffer. Both were too small for a program I tried to port over from the IBM PC; both were changeable from the drop down menus and the configuration could be saved.

Line numbers are optional. I like line numbers. I've used them for 20-odd years now. That's a difficult habit to break. And when one is trying to import a file that uses line numbers into a programming environment that does not permit line numbers (such as *GFA Basic*), labels for all the branch points become necessary. A long program can require a lot of work just to make this change. Porting such programs into *HSB* or *HS Pro* does not require such drastic surgery.

Other features common to both packages include structured programming, CASE, REPEAT, use of procedures, function and procedure recursion, and no arbitrary limits on program size or variable size.

Libraries are included that support GEM AES, GEM VDI, and GEM BIOS calls.

Manuals. After suffering through the disaster of documentation originally written in German with the GFA Basic's, the HiSoft manuals are a joy to use. The English is readable and does not contain the awkward and often confusing constructs found in the GFA manuals. I do, however, have two complaints. They are both related to the *HSB* manual alone: (1) There is no index in the manual. I found myself thumbing through the book at random a few times trying to locate something. The table of contents is not detailed enough to substitute for a really good index. (2) The manual is hard-bound, not spiral-bound like its big brother. Hard-bound manuals are AWFUL!! They just will not lie flat on my desk and they invariably get a broken spine at some page so that they always flip to

that page when left alone. There are just not enough hands and arms to go around to operate the keyboard and hold that manual simultaneously! I know, it's a small point, but small irritations eventually become major nuisances––kind of like a small stone in your shoe. The *HS Pro* manual, on the other hand, is both well–indexed and spiral bound. It is also quite complete––I was able to find the answer each time I went looking. I love it!

There is some confusion in the manuals caused by the use of the phrase "HiSoft Power Basic." What is Power Basic? Well, by now, it doesn't exist, at least in the US. There are only two versions of HiSoft, as described above. HiSoft Power Basic was apparently an earlier version of *HS Pro*, and, I suspect, available only in England, although I did see one message on GEnie where someone actually claimed to have purchased Power Basic. He did not say where he got it. MichTron officials have definitely stated that there are only two versions now, *HSB* and *HS Pro*.

There is a chapter on advanced library usage that contains quite useful material on operating system calls. Appendices cover compiler options, error messages, program conversions, hints and tips, bibliography and technical support. The *HS Pro* manual additionally contains appendices on profiles and desk accessory creation

Faux pas. The distribution diskette of *HSB* that I bought, serial number 1186, (not a review copy––this one came right off of L&Y's shelves) contains a file in the demo folder that is named with a four letter word. That is absolutely inexcusable. Call it trash.tos or junk.tos, but not what they used. The use of profanity in publicly distributed files is juvenile and unprofessional. The programmer who did that should be reprimanded and both HiSoft and MichTron should apologize. The offending file was not present in my review copy of *HS Pro*.

Editor. The editor is quite usable, but a little on the sparse side. There is no word wrap feature, only a few cursor controls and fewer still delete functions. Nonetheless, I found that it was adequate for writing Basic programs and editing existing ones. And that, after all, is all the editor really needs to do. If the user really has a strong preference for some other editor, it can be used provided it will produce ASCII files, which they all do, as far as I know. Since *HSB* and *HS Pro* are not interpreters, the editor does not recognize commands, provide any formatting (other than auto–indent) or do any syntax checking. This latter feature is the biggest advantage interpreters have––they save a lot of time and effort in debugging.

Compatibility. I work in an environment populated with IBM PC's; at home, I have an Atari ST. The result is that there is an almost constant pressure to be able to port software between the two worlds. When I saw the "compatibility" feature advertised on the box in L&Y, it was just too much––I couldn't begin to wait for *Current Notes* to provide me with a review copy, so I shelled out my money and bought *HSB*. So how compatible is it? In a word, compatible!!

I tried an engineering program for analyzing antennas called Mini–NEC that is about 620 lines long and contains some pretty bad spaghetti code. This program never, ever ran under *GFA Basic* and after a LOT of work at trying to re–write it so that GFA would take it, I just gave up. Well, *HSB* took it with hardly a hiccup. The file was long enough that I had to change the default values of both the editor and program buffers, but that was done rather easily from the menus. The only other problem was an "Unterminated line" warning. Turned out to be a missing quote at the end of a print statement. The program compiled and ran just fine.

I then tried another engineering program, this one for computing the strength of received radio signals. This was another long, nasty monster that wouldn't run under GFA either. It ran just fine under *HSB*, again with only one warning message about an unterminated print statement and no error messages.

I then tried a graph plotting program from an early book of engineering and scientific programs for the PC. Meltdown time!! In 280 lines of code, there were 13 errors reported by the compiler. Several were trivial, having to do with the KEY command (turn on & off the function key menu at the bottom of the *MicroSoft Basic* screen), but there were two that eventually caused me to give up. The first was the use of MERGE as part of the CHAIN command. MERGE is not supported by *HSB* or *HS Pro*. But that is not surprising. If MERGE were to be supported, there would have to be some way for a compiled program to compile the file being merged. This just is not practical. In fact, the MicroSoft compiler does not support the MERGE command either. The author of this particular program used MERGE as the trick to allow the user to specify a complicated math function that is to be graphed. Now, conceptually, the program could be split up and the APPEND command used, but then some means would be needed to allow the compiled program to recognize the math functions being specified by the user. This can be done, again conceptually, by including the math libraries in the compiled program and a parser of some sort to cause the specified functions to be looked up. Tricky business. It is worth noting, however, that it has been done with *GFA Basic*––the authors of *UltraGraph* that appeared in the November 1988 issue of ST Log included a compiled version of their program that recognizes trig and log functions. A further difficulty

arose with FOR..NEXT loops. Seems the author of the program used IF..THEN..ELSE within the FOR..NEXT loop to decide whether to increment the loop counter or jump out of the loop altogether. It took me an hour to figure out what should have been an acceptable substitute, but it never worked! So, I finally gave up trying to port this particular program over to the ST. *UltraGraph* and *SCIPLOT* (STart, also November 1988), and *Grapher*, (STart, Fall issue, 1987), all do a fine job of drawing graphs on the ST. And if I really want to use the PC graph plotter, I can run it under *pc–ditto* with *GW Basic*.

The bottom line on the compatibility issue seems to be that *MicroSoft* or *GW Basic* programs that use more or less "conventional" programming styles are quite compatible with *HSB* or *HS Pro*, including the standard graphics calls. If sufficiently tortured spaghetti code is employed, *HSB* may choke, but in that case, it is likely that so will MicroSoft's compiler. HiSoft also claims to be compatible with a "minimum of re-writing" with other commonly used Basic's such as *ST Basic*, *QuickBasic* and *Fast BASIC*. There is a substantial discussion in the *HS Pro* manual of the differences between *HS Pro* and *ST Basic, v2*.

Speed. I ran seven different speed benchmark tests and compared the results with *GFA Basic* (compiled) and *Logical Design Works'* compiler. The results were only a little different in each case with *HSB* and *HS Pro* being slightly slower for some tests and slightly faster for others, but the differences were not enough to warrant further discussion. As Andrzej Wrotniak recently pointed out in CN, most competently written compilers will produce code that is about the same speed as other compilers of equal quality. Such is apparently the case with *HSB* and *HS Pro*.

Bugs. I didn't find any bugs. So I looked in the HiSoft SIG on GEnie and the message base there has a HUGE amount of discussion about HiSoft, but I could not find any real bugs reported for the ST, although there is an entire topic for HiSoft bugs on the Amiga. The message base for the ST was mostly argument over the relative merits of GFA versus HiSoft and why did MichTron introduce another Basic, etc., etc. The most important element of the discussion to me was the difficulty or lack thereof that people are having converting GFA programs to *HSB* or *HS Pro*. It appears to be easy in some cases and nearly impossible in others. One author reported having to re–write 99% of the code in a program he was trying to port over to *HSB* that had been originally coded in *GFA Basic*.

Conclusion. HiSoft's two basics are well done languages capable of satisfying the vast majority of programming needs. These basics are particularly useful if porting programs written on the IBM PC in

basic is important, provided, of course, that the source code is available and that the code is written in fairly conventional style.

The question of whether to buy *GFA*, *HiSoft* or *Logical Design Works (LDW)* basic's is not easily answered. If the most cost–effective package is wanted, *LDW* wins hands down because one can write with *ST Basic*, which is free with the ST, debug in an interactive environment and then compile for speed and stand–alone code. If most of your programming is going to be producing original code, the *GFA* environment is probably best for you because their interpreted basic is so easy to use and so powerful and, in version 2.0 at least, has a companion compiler. If porting PC software is important, then HiSoft is probably the best choice.

There is also a review of *HSB* in the March 1989 issue of *ST Informer* that is well worth reading before making a buying decision. The author of that article gave a slight edge to *GFA Basic*.

[Michtron, 576 S. Telegraph, Pontiac, MI 48053.

How WordPerfect & Atari May Have Saved Our Lives

By Frank Sommers

"Look, I suggest we try your disk on my machine at my house, first, and then we can go over and set it up to run on your computer," I directed, as I tried to make arrangements to get one of this fall's young freshman at Stanford University up and running with *WordPerfect* on his 1040 single drive system.

"Fine, see you at 4 P.M.," he responded with cheerful good humour.

He had been very calm a week earlier, when he explained over the phone that he was having problems getting the last paper of his high school career to print out on his NX 1000. After listening to my explanation that he go back and change drivers, and install the Epson FX80, he thanked me. Admittedly, it was not he but his father who called back to explain that his son, John , had followed my instructions and had completely erased the file with his English term paper on it. A star student, John was having trouble accepting the humiliation he would face the next morning in English class when he rolled out his excuse for no final term paper, his father added.

So now it was time to convince him everything could work together. Sure, we could have gone straight to his house and resolved it all. But I decided, maybe a little selfishly, coupled with possibly a little uncertainty, to make it quick, show him on an Atari Mega ST4 with a hard drive just how well *WordPerfect* did work, and dazzle him a bit with the hum and whirr of a laser printout. Then we'd go over to his house and make sure his *WordPerfect* set up would work.

Just before he arrived, I was still frantically trying to close everything off, hard drive and printer, second floppy drive, etc., so that I could get a one disk floppy of *WordPerfect* to perform on my machine. I guess I felt a little guilty about proposing he use *WordPerfect* versus a less powerful word processor. (I'd assumed that the next "gift day" would bring him a second drive to ease the disk swapping burden). So I wanted to show him how fast it was on a hard drive, but that it also worked off a single floppy. After an hour I finally had the single disk version working. Lesson: the more advanced we get, the more of the basics we forget.

Sharply at 4 P.M. John arrived, eager to "see the light," or at least eager to get this over with and back to his house.

First, we checked to make sure the files were intact and identical on his version and my version. They were. Then I prepared a Ram drive for him and put it on a seperate disk; at least he would have the benefit of that until a second drive "materialized." We finally got to running it off the floppy. Then there was the whir of the laser, barely audible above the sound of thunder and rain of the descending afternoon storm. As I was about to suggest we move to his house, it struck. The screen went white and then blank and black!

The room exploded as wind and storm poured in from all four direction with a crash and roar that convinced me we were in the vortex of a rare Washington, D.C. tornado. (It later turned out it was a windshear, the kind that destroy airplanes as they slice skyward, but also smash back to earth and mushroom out knocking down everything in the environs.)

By the time we'd secured the open windows, the rocketing storm, later judged to be the worst in 93 years, had past. We walked outside into merely drizzling rain, and warzone devastation. The shear had toppled trees like a thresher thru a wheat field. Eighty-foot giants were uprooted and cast across streets and onto houses, leaving bomb-crater holes next to sidewalks they had adorned. We walked for several blocks, marveling at the destruction, the friendliness of everybody toward everybody, all aloofness dissolved by the rain and the sharing of a calmity and surviving it. Finally, John thought he ought to skip home and see how his house had fared.

It is now four days later as this is being composed. My computer is up for the first time via a 500 foot extension cord to a neighbor. Electricity is almost all restored throughout the damaged portion of the city. But of the many things we are thankful for, at least two of them are the Mega and the way *WordPerfect* performs on it. Otherwise, we would have started the exercise over at John's house. The picture, below, taken by the press, shows a tree that fell about the same time our screen went blank. The monster wiped out his bedroom, his computer desk and the two chairs where we would have been ensconced had we been there instead of here.

The Junkyard Pussycat

by
John
Barnes

Since he is built low to the ground the Junkyard Pussycat gets to look at lots of things from their underside. What seems bright and shiny when seen from the front or the top often looks like something else when viewed from the "wrong" side. Laser printers generally, and the Atari SLM804 in particular, are good cases in point.

The New Puppy

Bringing home a laser printer is like bringing home a new puppy. It's going to change your lifestyle. Not necessarily for the better, at least not at first. The Junkyard Pussycat has trained several puppies in his time. The little fellows are anxious to please and they give back lots of love if you keep them well nourished and well cuddled.

The first issue is one of breeding. You have to decide whether to get a mongrel from the pound or a puppy with a pedigree. PostScript laser printers are the purebreds in this show. They cost a lot and they show it. They prance around with their glitzy lettering and their pretty graphics. They are finicky eaters, though, requiring a diet of the finest fonts. They also take lots of coaxing to do their tricks.

Some breeds can pretend to be plain dot–matrix printers. This is by far the easiest because the user should be able to just keep on doing what he has been doing all along. However, this seems to be a waste of a good pedigree because the printer is capable of so much more: proportional spacing, varied print sizes and lettering families, elegant graphics.

Sometimes the breeder does a poor job and scrambles the genes. The printer fails to obey proper commands and there is simply no way to make it understand. The NEC 890 Silentwriter that I have at the office seems to fall into this category. *WordPerfect* printer drivers that perform perfectly with purebred HP LaserJets and Diablo 630 's seem to produce files that have no idea where they are supposed to end up on the page. PostScript seems to work just fine from a

MAC II through an AppleTalk port, but *Publishing Partner* and *Publisher ST* seem to lose track of where they are when speaking to the RS232 port. I suspect the problem is in the printer hardware or firmware, but I haven't had the patience to pin it down yet.

The Atari *SLM804* is really not a puppy at all, but a kit for making one. The tools and recipes seem almost as complicated as genetic engineering. At the present time they are also just about as undeveloped. The idea is a good one, however. If you don't like what you're getting you can change it. The intelligence that is bred into the onboard computers of most laser printers resides in your Mega 2 or Mega 4 when you are talking to an Atari laser printer.

Since the SLM804 has only one kind of interface and no firmware I can at least hope that it will get straightened out eventually without costing too much money. No matter what they say, the Atari engineers have created something that is not a Diablo 630.

Dot–Matrix printers may be enjoying a new lease on life with the emergence of 24–pin technology that offers 360 dots per inch. Friends have reported excellent results, but the same basic problems remain because the intelligence to put graphics into a raster form has to reside somewhere, either in the computer or in the printer. Perhaps the *Ultrascript* people will come up with the right sort of software to handle this.

Housebreaking

Young puppies leave lots of mistakes. Housebreaking––the art of making the puppy understand how it is to behave––is something that requires enormous patience and energy. The beginning user makes lots of mistakes until he finds the right way to make the printer understand.

One prime principle in housebreaking is to keep the puppy in a limited space well supplied with newspapers. They don't like to foul their own nests and laser printers are the same way. The user's initial experiments should be simple ones. Try a straight print of a document file by double–clicking on it from the desktop. Once that is straightened out through a proper choice of driver installations, interface characteristics, and type fonts, it should be a straightforward matter to teach it something else.

Timeworks' *Publisher ST* does a pretty nice job and I found *Athena ll* particularly easy to use with the SLM804. *G+Plus* is also a fine tool because of the way it tames the GDOS monster.

The more complex the tricks you try, the more likely they are to fail (Murphy's Law). *Word Perfect* is a fine example. If you kidnap the printed output and put it into

a file instead of letting it go to the printer you can see that it is telling the laser printer a lot before it ever starts sending your document.

Chewing

Young puppies like to chew on anything they can get their teeth into. Don't let things that you don't want chewed lie around. When trying out a new piece of software make sure that everything is backed up and load only what you actually need. This rule applies double if the software is so new that no one else has had experience with it. When I first started using *Publisher ST* with the SLM804 I got a number of rude surprises before I found out that the program likes to write secret files to the hard disk without telling anyone. When the disk gets full bad things sometimes happen to the FAT table. My trusty Hard Disk Sentry got quite a workout in those times. Once I gave the program some elbow room I could get through a session without crashing. Of course I had to reformat my hard drive to give the biggest possible partitions in order to accomplish this.

Mature dogs seem to know what's chewable and what's not and laser printers seem equally happy once everything is in its proper place.

Puppy Chow vs Steak

Diet is important because young puppies cannot digest rich food. Keep your initial efforts at desktop publishing simple and functional. The learning curve on this kind of software can get very steep indeed, especially when mixed with a generous dose of GDOS or *UltraScript*. The Timeworks people did a fine job when they set up their configuration program for *Publisher ST*. A place for everything and everything in its place. The program is easy to use and you can go a long way using *Degas* clip art.

In time you will develop a taste for richer fare, like the sensuous lettering from *UltraScript* or the smooth elegance of .IMG files, but you will also have learned the value of patience and persistence.

Keeping the Fleas Away

Good grooming is essential. The heart of a laser printer is the toner feed and the imaging drum. Toner cartridges are from 10 to 50 times as expensive as printer ribbons, and the imaging drum is right up there as well. Ribbons typically do not last very long, however, perhaps a few hundred pages to a toner cartridge's 2000 or more.

Care must be also be taken in the choice of paper so as not to leave lint behind or to jam the transport mechanism, which operates on rather tight tolerances. Fortunately, laser printer paper is cost-competitive with pin feed printer paper.

Demanding Lots of Attention

Pets demand a lot of attention. Laser Printers demand a lot of computing power. A good quality PostScript Laser printer has three or more megabytes of RAM in its onboard CPU. If you think of the Atari SLM804 as a very high resolution hardcopy black and white TV set it is easy to see why this must be so. If the printer puts out 2400 dots along the narrow side of the page and 3150 or so down the long side it is easy to calculate that there are more than 7 million bits on the page where each bit is a black or white dot. The computational work required to determine whether a particular one of these bits must be turned on or off is pretty formidable.

Thus, when the computer is telling the laser printer to output something it has to do a lot of calculations. In contrast, the amount of information that a word processing program has to specify to a dot-matrix printer is really not much greater than the number of bytes in the document. In this case there is a long time between bytes that the computer must feed to the printer and it is easy to create programs called "print spoolers" that check to see whether the printer wants more output every few milliseconds or so. In this sense laser printers that have their own on-board intelligence act like dot-matrix printers.

I doubt that we will ever see print spooling for the Atari SLM804. I am also willing to bet that laser printing is not compatible with multi-tasking. The computational demands are simply too great. The UltraScript package provides a form of batch processing in the form of a .TTP program that allows you to queue up a bunch of work to be done while you are doing something else. Given that imaging times can run to 20 minutes or more for a document with a modest amount of graphics, this could be very useful, although I have not yet tackled a job big enough to justify this approach.

I would like to see utility programs to do this for .DTP files from Publisher ST and similar programs. There is no particular reason to use the mouse to tell a program to "print odd-numbered pages from 1 through 6 of document X."

Taking Up Space in Bed

Puppies and adult dogs alike enjoy sleeping in beds with people in them. Software for your laser printer will soon occupy all of the space that it can find on your hard drive. There is no one program that does it all, so you will have several: *Publisher ST, PageStream, Easy Draw, Touchup, Degas Elite, Athena II, Calamus, CAD-3D,* and others yet unborn. Each one has its own way to deal with fonts and images. A Meg here, a Meg there, and another half a Meg over there. That soon adds up to real space (and real bucks for your hard drive).

Don't even think of doing desktop publishing without a hard drive. The creative process, even in its simplest forms, demands so many tools and so many

iterations that you will soon go berserk if you have to keep switching disks, moving files, and rebooting. Losses when you forget to save something amid all of this confusion are all too common.

Actually your output of finished work will soon achieve a respectable volume of its own. Since this often serves as the inspiration for later work, let me warn you against simply saving the .DTP or .DOC files and discarding the rest. Save the .PI? files and the .WP files right alongside the DTP files to simplify editing and revisions. Style sheets are also important for those programs that use them.

Once you've achieved some good results with typesetting you will want to dress it up with some imagery. This brings us to clip art, which rapidly becomes another source of disk clutter. Few people possess the steady hand and the informed eye of the trained artist, so it becomes necessary to clone things from existing models. There is quite a rich supply of such material but each file tends to be pretty big. A double sided disk will hold only about 18 Degas .PI3 files while .IMG files can easily exceed 100k bytes apiece.

Archiving and cataloging this stuff requires some pretty good tools.

Send it to Obedience School

Turning a puppy into a well-behaved dog takes training and discipline for owner and animal alike. This training is vital to the health of both dog and owner.

I have seen too many examples of unruly DTP documents. Frame layouts that ignore column guides, careless use of paragraph styles, cluttered frame arrangements, and missing master pages are the most common problems. These matters are not obvious at the beginning because most software is pretty intuitive in its use. Building in structure and uniformity of style are subtleties that take training. Take the time to train yourself and tame your beast. Real printers and pub-lishers are skilled craftsmen who have endured long apprenticeships.

I expect that a cottage industry will soon grow up to produce tomes on the best use of DTP software. Unfortunately, the Atari market is probably too small to justify much effort for our favorite products. I hope that the DTP contest for the WAACE AtariFest will produce some good models.

Gourmet Chow

Plain canned dog food or dog chow soon becomes tiring. More exotic fare is welcome and laser printer users find this in "scan art." Right now we are anxiously awaiting new products for scanning and for direct video input. Tools like Migraph's *Touch-Up* and *Supercharged Easy Draw* are already available to clean up the rough edges. *ComputerEyes* and *Digispec* can be very useful for the "paint by the numbers" set. I have seen some

nifty image processing tools for edge enhancement and resolution desmearing on a Mac II so they can't be out of reach for us.

Type fonts are another form of ambrosia for the DTP connoisseur. A nice Olde English or Old German and something that has a better fullness for calligraphy than Zapf Chancery would make a nice addition.

Charts and graphs are an area where an innovator could do some real good. Something like Abacus Software's *ChartPak* with PostScript output (or even GEM metafile output) would be very nice.

An HPGL emulator (to make the SLM804 look like a pen plotter) would be a great addition for CADD.

A means of putting the beauty of well-reasoned equations on the page (and on the screen) would tickle me a lot. Donald Knuth's *TeX* is available for the ST and this may, if we can get it working, provide at least a little satisfaction for the theoretical physics crowd.

Man's Best Friend

As I mentioned before, pets are anxious to please. A well trained laser printer does everything but wag its tail after it offers up a nicely laid out page. The "whirrrrrrr" as the paper feeds past the drum sounds like purring to this Junkyard Pussycat's ears.

TURBOWORD+
A Quality Word Processor for the XEP80
Review by Stan Beville

When I first saw the XEP80 80–column module being demonstrated at the NOVATARI Atarifest way back in October 1987, I was impressed with its sharp, clear display. I also believed Atari's many promises of "soon–to–be–released" software for its little 80–column wonder. And so, after some not–so–subtle hints to my dear wife, I was very happy to receive a brand new XEP80 for Christmas.

However, after a year and a half with no software available, I was beginning to have second thoughts about the wisdom of purchasing an XEP80. Sure, it runs some nifty demos, and the 80–column output looks terrific. But it appeared that no one was ever going to produce anything that would make buying the XEP80 worthwhile. That's what I believed, until last January when I bought a copy of *TurboWord* from Micromiser Software, Inc.

The first commercial XEP80–compatible software to reach dealers' shelves, *TurboWord* is a versatile word processor that works as advertised. While designed primarily for writing short documents, it can handle most home, school, and professional writing requirements. *TurboWord* doesn't support mixing graphics with text, but it comes loaded with so many other features that it almost makes writing fun.

In February, an update entitled *TurboWord+* that fixed some bugs in the original version and added a few new features was released. This review is based on that latest release, and will examine its main features, strengths and weaknesses.

System Requirements

TurboWord+ will run on any XL/XE computer with an 810 or 1050 (or compatible) disk drive. However, it does not presently work with the 400/800 computers. The problem here is that the Caps Lock function does not work, nor will the HELP screen be displayed when editing.

Documentation

TurboWord+ is a straightforward word processor, which is

fortunate because the manual that comes with it is rather poorly written. Instructions are often incomplete or confusing––I had to read some passages two or three times. A picture of the main menu screen would make following along with the instructions a lot easier. The manual for *TurboWord+* now has an index, which is a definite improvement.

TurboWord+ is not copy protected, and one of the first things you should do is make a backup copy. Your next step should be to print out the UPDATE.TXT file. This file contains additional instructions and corrections to the manual, and is must reading for all users. A demonstration of many of the editing features is included in the DEMO.TXT file. You can view this file on screen or print it out.

Compatibility

One of my initial concerns was whether the files I had accumulated using *AtariWriter* would be compatible with *TurboWord+*. I was relieved to find that all of my *AtariWriter* files loaded with no problem. All I

TurboWord+ runs much faster with increased memory. The optimum system consists of the following:

o An XL/XE with 256K+ memory upgrade, including ICD's MIO board and RAMBO upgrades. Other memory upgrades should work as well.

o The XEP80 80–column module.

o A monochrome monitor. I use a Thomson 4120 monitor in composite color mode, and it works fine. But a monochrome monitor provides a much sharper display.

o Either a hard disk drive or two double–density disk drives. Double–density drives can be either Atari 1050s with US Doublers, XF551s, or any Atari–compatible drives.

o Either SpartaDOS XC23E.DOS or the SpartaDOS X cartridge.

o BASIC XL. This greatly speeds up certain functions such as Reviewing and Spell Checking.

o A parallel printer using either an 850, MIO board, P.R.Connection, Uprint, or XEP80 parallel cable hookup. This is a significant improvement over the first release, which allowed only two printer port specifications: P1 and P2. As a result, many printer interfaces would not work. *TurboWord+* can now handle just about any specification. Unfortunately, many older interfaces which connect to the back of Atari disk drives, such as the Ape Face, still won't work with *TurboWord+* due to timing problems. However, most Atari printers (including the 1027 and newer models) will work.

had to do was edit each file to remove *AtariWriter* formatting and control codes before saving it to disk in *TurboWord+* format.

TurboWord+ is also compatible with most DOSes, including Atari DOS 2.0 and 2.5, DOS XL, Sparta-DOS XC23E.DOS and X32D.DOS, and my personal favorite: MYDOS 4.5. I don't know if Atari DOS XE is compatible or not––I don't use it.

Editing

TurboWord+ gives you about 25K of text space in main memory. This equates to about seven pages of single-spaced text. This is not a serious limitation, since longer documents can be created by chaining or linking text files together when printing.

Due to its modular design, *Tur-boWord+* only loads the necessary operating files as they are needed. However, this means a great deal of waiting time due to constant disk swapping and accessing.

TurboWord+ runs much faster if the operating and text files are loaded into a RAMdisk. On a stock 130XE you can initialize the extra 64K RAM as a RAMdisk (Drive 8) and load only those operating files that you will actually need. You can then use Drive 1 for your data disk and run the program from the RAMdisk in Drive 8. You'll still have to switch disks to run the spelling checker, since the dictionary files won't fit in the 130XE's RAMdisk.

When the program is finished loading, you will see the main menu screen. From this screen you select all other functions. To begin a new file or to edit an existing one, you first press [N]ame file. You then give your file a filename. If it is a new file, you will go to the editing screen and can begin typing. If the file already exists, it will be loaded and you will be placed back at the main menu screen. Press [E] to go to the editor. With an existing file, the filename will be displayed as a default. You can then choose to

keep the same filename, or rename the file if you want it saved under a different filename and/or drive number. Pressing [Return] will finally take you to the editing screen and you can begin editing.

You can select whatever margins you wish from either the main menu or by pressing [Control]–[G] at the editing screen. Simply enter your left and right margins, press [Return], and the screen will be redrawn. The margins will be indicated by two vertical lines on the left and right, with text centered in between. You can display up to 80 columns on screen, but you can print up to 160 columns. There is no horizontal scrolling––lines with margins greater than 80 columns will wrap around.

TurboWord+ uses the normal [Control]–[Arrow] keys and the [Start] and [Select] keys for moving the cursor and scrolling text. It also offers the standard Block Move, Copy, and Delete, as well as Insert and Overwrite modes. Should you forget what key combinations to use while editing, pressing the [Help] key will bring up a Help screen showing all the various keys to use for special editing functions. Pressing [Esc] or [Return] takes you back to the Editing screen.

The editor is quick and doesn't drop letters, except when you have to insert long text. The reason for this is the automatic text formatting feature, which is both a blessing and a curse. Should you try to insert more than a couple of words, chances are you will lose letters as you type. This is because text is moved down at the end of a line as the cursor shoves everything to the right margin as you type. As words drop off, the document is automatically reformatted ––a very slow process. If you continue typing while this is going on, you will lose some text.

One way around this problem is to insert blank lines by pressing

the [Control]–[Insert] or [Return] keys. Another way is to press the [Shift]–[Help] keys––you will then go to a blank screen where you can type your insert at normal speed. Pressing [Help] will then place your insert at the spot designated by your cursor.

TurboWord+ offers some unusual yet useful features for an 8-bit word processor. For those of you who get tired of looking at a steady cursor, you can turn on a blinking cursor by pressing [Control]–[U]. You turn it off by pressing [Control]–[U] a second time. By pressing [Control]–[R] and then the [Esc] keys the screen will be redrawn with all spaces and Returns being marked by underlines and diamonds.

Another nice feature allows you to see how much room you have left to add text. Simply press [Control]–[P] and a sliding bar will be drawn across the top of the screen with a mark placed between the two endpoints indicating how much room remains in the text buffer. Pressing [Control]–[L] displays a ruler, which helps when trying to center text between margins.

When done editing, pressing the [Option] key will save the file to disk and take you back to the main menu. One needed feature that *TurboWord+* added was the ability to return to the main menu without saving the file. Press [Control]–[Esc] and you will go right back to the main menu screen, but no editing changes that you may have made to the document will be saved.

Another big improvement that *TurboWord+* offers is the provision for double and triple spacing of documents. You could do this before by embedding printer control codes in your text, but *Tur-boWord+* provides a much easier and more efficient method of accomplishing this: simply choose the line spacing you want from the main menu.

You can create headers which can contain up to 255 characters. The header will not be repeated while editing, but will be repeated when reviewing or printing your document. *TurboWord+* does not support footers, however.

Spell Checking

TurboWord+ contains a spelling checker with a dictionary that is rather anemic. The dictionary comes on a single-density disk that holds only about 12,000 to 13,000 words. Moving the dictionary files to a double-density disk will enable you to expand the dictionary by adding words as you spell check a document. In this manner, the dictionary can be doubled in size to over 25,000 words, which should fit most people's needs.

To work properly, the spelling checker must be able to access the dictionary files and the text file to be checked at the same time. The simplest way to go about this is to load the text file into the RAMdisk with the operating files. On a stock 130XE, store the text file in the RAMdisk and run the spelling checker with the dictionary files in Drive 1. If you have a 65XE, XEGS, or 800XL and no RAMdisk, then you must copy the text file to the disk with the dictionary files until you finish running the spelling checker. You can then move the corrected text file to your regular data disk. The spelling checker cannot be used if you have just one single-density 810 disk drive and no RAMdisk: the dictionary files take up the entire disk, leaving no room for a text file.

When *TurboWord+* comes across a word that it doesn't recognize, you will see the word in question highlighted in the center of the 70 surrounding characters. This allows you to read the word in context. You will then be given three options: [A]dd, [S]kip, or [F]ix. After adding a new word to the dictionary, *TurboWord+* will keep flagging repeated uses of that word until it finishes checking the document. The same applies when skipping a word––it will keep popping up until you reach the end of the file. It isn't until you begin checking another file that the newly added words take effect. Choosing the [F]ix option will allow you to enter the correct spelling. You can quit spell checking at any time by pressing [Q].

Dictionary files can be edited, contrary to what the manual says. I strongly recommend editing all 30 files, for all of them contain a few words that are either misspelled or entered in twice. You will also find some words that you will probably never use or have never even heard of. In any case, it is worth the time and effort to tailor the dictionary to fit your own writing style and needs.

Running the spelling checker from a disk drive is a lesson in patience. For example, it took over 11 minutes just to check this article. Loading the dictionary files into a RAMdisk before running the spelling checker speeds up the process significantly.

A function that I don't particularly care for is the Word Count. Unfortunately, it is not very accurate. The count you get will almost always be 10–20% higher than the actual number of words in your file.

Printing

The printing function works extremely well. The printer driver comes preset for Epson and compatible printers. You can reconfigure the printer driver by selecting the [A]ssign printer codes function at the main menu. Your redefined printer driver can then be saved to disk for future use. You can define as many drivers as you need.

You can even insert printer codes directly into your text while editing. This degree of flexibility allows *TurboWord+* to work with almost any printer available, including laser printers.

There is a mail merge feature for printing form letters from a list of addresses. You can also print the address on an envelope after printing out a form letter. *TurboWord+* will even print your return address on the same envelope.

And More

Besides those changes to *TurboWord* mentioned earlier, *TurboWord+* offers the following improvements:
✓ Printing in two columns.
✓ Sorting addresses alphabetically.
✓ Printing on even/odd pages.
✓ Formatting disks (single-density only).
✓ Right justification.

As good as *TurboWord+* is, there is room for improvement. For example, the biggest fault that I've found with the spelling checker is its lack of a Search function. If you are unsure how to spell a particular word, you will need a copy of Webster's handy, since *TurboWord+* doesn't let you search its dictionary files to find the correct spelling. This is a feature that I really liked with the *Atari Proofreader* spelling checker, and it should be incorporated into any future revisions of *TurboWord+*.

The program also needs an Undo function. There have been many instances (as in writing this review, for example) when I made deletions and other changes that I later wished I could undo. Pressing a couple of keys to restore a deleted paragraph is much easier than retyping everything all over again.

Summary

There are a couple of important considerations to keep in mind when purchasing any software. One is the degree of help you can expect to receive should problems arise in getting the program to work

properly. The folks at Micromiser Software offer friendly assistance to anyone calling with a problem. And they are very receptive to suggestions from users for improvements in their programs.

Another consideration concerns itself with the commitment of the developer to upgrading and improving his product. Micromiser is continually working on debugging and improving *TurboWord+*. According to Steve Bolduc, *TurboWord's* main author and programmer, a second update will be out by September. The next release will fix a few more bugs and include a file manager. The update will either be free to registered owners or there will be a nominal replacement charge of two to five dollars.

TurboWord+ lists for $49.00. If you write a lot and want real 80–column capability at a reasonable price, then *TurboWord+* is for you. Atari has a long way to go to design a better word processor for its XEP80.

Into the Eagle's Nest

Review by
John Godbey

Into the Eagle's Nest will not win any awards for originality. Having said that, it is difficult to think of anything else uncomplimentary to say about it, and easy to think of good things to say about it. It is new; it is not a repackaging of some old Atari game, nor is it a translation of a game that was popular on other computers five years ago. It makes excellent use of the Atari's graphic and sound ability. Control of the game with the joystick is easy. The game is easy to learn but difficult to master. In summary, I would say that this game is playable. When you finish a game you always feel that if you

had been just a bit quicker with the joystick, or your strategy had been slightly different, you would have gone all the way. So you play again, and again.

At the start of the game you find yourself in the storage room of the Eagle's Nest—a castle filled with Nazis. Next to you is a key. You pick it up and open the door, beginning your adventure. On each of the Eagle's Nest's four floors is a prisoner; scattered throughout are art treasures; and explosives are hidden on each floor. Your mission is either to set off the hidden explosives and blow up the castle, or rescue the prisoners.

The view of the castle is from above. With the joystick you move your man around the rooms, picking up keys and treasures and looking for the prisoners or explosives. When you have finished one floor, you take an elevator to another. With experience, you learn which rooms to enter and which to avoid. You must enter the rooms in the correct order, so that you can pick up ammunition, food, etc. at the proper time. I can't tell you what happens when you finish

with all of the floors, because I have never made it that far.

As your man moves, the screen scrolls over the castle floor. Nazis attack you; you must be quick with your gun--it's kill or be killed. The action is fast, and you must use extreme care because any miscalculation can result in death. Additional ammunition is scattered around the castle so you can replenish your supply. There are also first aid kits and food to help heal your wounds. There are chests of explosives which, if accidentally shot, blow up the entire castle.

The sound is well done. Your gun sounds different than the Nazi's guns. There is a distinctive sound when you kill someone. This makes it easier for you to keep track of what's happening in the game when the action gets fast and furious.

In summary, this is a well thought out and well executed game. It's an arcade type action game, but with enough strategic features to keep you occupied. This is the best new game I've seen for the 8–bit Atari in several years.

Dark Chambers

Review
by
John Godbey

Dark Chambers is another new cartridge game for the XL or XE computer or game machine. It is similar to *Into the Eagle's Nest*, but in my opinion, not nearly as good.

It has the same "maze" scenario as *Into the Eagle's Nest*. At the start of the game you are in an underground maze--the "Dark Chambers." There are 26 levels, or different mazes connected by stairs. On each floor there are a variety of zombies, skeletons, and so on waiting to kill you. Also scattered about are shields, guns, potions, and other good things. The object, of course, is to collect as many good things as possible while avoiding the bad things, and to advance to the next floor of the maze.

At the beginning of each game you can choose beginner, standard, or advanced play. These

differ in the number of baddies that are on each floor.

I tired of this game fairly quickly. Part of the problem is that everything is so tiny. There are nearly two dozen different objects that you need to identify by sight--and they are only a few pixels wide and tall. It may say more about my eyesight than the game, but I found it almost impossible to tell them apart while playing the game. In addition, it didn't seem to me that my playing ability improved much with practice. Again, it may be my fault, but when I finished playing a game of *Dark Chambers*, I did not have that desire to play again.

Dark Chambers does, however, have one good feature which many games lack--a true two player mode. With two joysticks, two players can attempt to complete the game together. This adds a whole new dimension to the game. The players must develop a cooperative strategy--parceling out the food, letting the stronger of the two go first and shoot the baddies, and so on.

The game comes with the standard Atari game cartridge manual--a three page fold out. It gives a brief overview of the game scenario, has pictures of all of the various beings and items you encounter, and a chart to explain the scoring--so many points for each of the baddies you kill.

If you normally play games by yourself, I don't recommend this one. But if you enjoy two–player games, and have someone to play with, then give *Dark Chambers* a look. Note: Both games require the XE or XL computer (or the game machine). They will not work on the old Ataris.

Mario Bros.

Until Atari begins marketing multiple screen arcade adventures such as Nintendo's *Super Mario Bros. I* and *II* or Sega's *Alex Kidd in Miracle World*, the system will not be able to compete aggressively with its two competitors. As good a game as the original *Mario Bros.* is, and as much as my children enjoy playing it, this 1983 creation only makes their mouths water even more to experience the game's newer siblings.

Mario Bros. only suffers by comparison. As video games go, it still can hold its own. The principal game screen displays the following: a large pipe in each of the four corners; seven horizontal lines (floors) spread out over three levels; and a "POW" floor.

Mario, the central character, and his brother Luigi (in the two-player mode) must kick a variety of pests off the floors into a bucket of water. To do so, they must jump up and hit the floor directly below the enemy. Then, before the creature regains its equilibrium, our heroes must jump to the varmint's level and kick him (her?) off. When a certain number of pests have been dispatched, the player(s) progresses to the next screen and so on.

Adding spice to this somewhat bizarre dish are the following:

- If Mario or Luigi touch an uninjured pest or a fireball, they lose a life. Players may jump over these or destroy them in the same way creatures are dealt with.
- After a pest is kicked off a floor, a coin appears from above. The player may catch it or hit it from the floor below for extra points.
- There are special bonus coin screens in which the players try to retrieve as many bonus points as possible. Touching all the coins is very challenging.
- There are a number of different creatures, including ones who must be hit from below twice before they are incapacitated, and others who hop from section to section and only can be flipped when touching the floor. Another enemy freezes each floor it travels on, making them particularly difficult for our heroes to traverse.
- Hitting the "POW" floor from below has the same effect as hitting each floor simultaneously would have. Naturally, there is a limited number of times this valuable feature may be used.
- The game may begin at any of three settings: standard, advanced, and expert. The expert begins the game at Level 6, for instance. In that way, more experienced players can avoid some of the easier earlier screens--a very nice feature for arcade gamers.
- The two-player option allows both players to work side-by-side to defeat the creature. This helps both players see later screens they may not have attained working alone. Also, because of the need for formulating successful strategies, the contest becomes more intellectually stimulating than it otherwise might be.

Sound is more than adequate. Screen animation is fluid, and the joystick responds accurately and quickly to the game's demands. The characters are well drawn, particularly our two handsome Italian superheroes (in fact, they look like cousins of mine).

Not state-of-the-art but good art nevertheless, *Mario Bros.* is worth your while.

Desert Falcon

Imagine that you are a desert falcon. No, I don't mean a hi-tech flying machine-type falcon. I mean a bird. Imagine that you are a bird. Got it?

Imagine that centuries ago an Egyptian pharaoh's tomb was plundered by thieves. Before these malefactors could spend their ill-gotten gains, they were pursued by various local beasts. As a result, priceless golden eggs, silver, and jewels were scattered throughout the desert. The treasure has been lying around in plain sight for thousands of years, and no one has had the eyesight to spot any of it, nor the presence of mind and the greed to scoop it up. Imagine that!

Imagine that you (the falcon) are flying through a horizontally-scrolling desert looking for these objects. When you see them, you must hover or hop over them to pick them up and earn points. Unfortunately, they still are being guarded over by lots of crawling

and flying creatures. You may maneuver around them or shoot as many as possible by firing arrows. Apparently this arrow–firing species is indigenous only to the Egyptian desert.

Imagine a desert filled with flame–throwing Fire Pots, dart–shooting Mini–Sphinxes, multi–colored sand, obelisks that look like Manhattan high–rises (deadly if you hit one), and overflowing rivers (this falcon can swim).

Imagine completing a level by shooting a dart–spitting Howling Sphinx between the eyes. Success gains you entrance to the bonus round. Your goal here is to pick up as many treasures as the time allows.

Imagine gaining super powers merely by hopping over any three hieroglyphs found in the sand. Some of the many super powers available include air bombs, warp speed, invincibility, and the ability to kill all on–screen enemies with the push of a button. Occasionally, a super power is a super nuisance. Shackles, for instance, allow you to fly and swim but not hop.

Imagine a game in which just surviving takes up so much of a player's energy that scoring points or checking to see what super powers have been garnered is almost incidental.

Imagine a beautifully–drawn bird effortlessly moving across a nearly three–dimensional landscape.

Imagine wave after wave of the enemy heading toward you in unique patterns of movement.

Imagine the sounds of snake charming music in the background.

Imagine a bird–like *Zaxxon* or *Blue Max*.

Imagine all of this, and it adds up to Atari's 7800 cart––*Desert Falcon*.

As you might imagine, I had mixed feelings about this game. Visually, it is quite attractive. Graphics and animation, for the most part, are well done. *Desert Falcon* also is loaded with action.

On the negative side, the plot is unbelievably silly, and there is very little variety from screen to screen. I tired of the challenge after twenty minutes or so. My children, however, will come back to it from time to time.

Both buttons on the 7800 joystick are employed in the game. The left is for shooting arrows, and the right for activating certain super powers. Using the right button is a bit tricky for former 2600 users, but should cease to be a problem after a while.

Desert Falcon is an average arcade game with a below average plot and above average visual appeal.

by
J. Russek
and
L. Poggiali

Atari's Small Miracles

BRIAN'S THEME

This program creates randomly designed pat-
terns in blue, white, and green on a black
background. The designs are attractive. Program-
mer Vince Scott has added another feature. Type it
in, and you will see what I mean.

```
10 X=INT(310*RND(0)):Y=INT(150*RND(0))
20 STP=((3+INT(RND(0)*3))*2)-1
30 GRAPHICS 8:SETCOLOR 2,0,0:SETCOLOR
1,0,14:POKE 752,1:COLOR 1
40 ? ," STEPPING BY ":STP
45 ? ,"HIT CTRL+1 TO PAUSE"
50 FOR T=0 TO 319 STEP STP
60 PLOT X,Y:DRAWTO T,0:PLOT X,Y:DRAWTO
319-T,159
70 NEXT T
80 FOR T=159 TO 0 STEP -STP
90 PLOT X,Y:DRAWTO 0,T:PLOT X,Y:DRAWTO
319,159-T
100 NEXT T
110 FOR G=1 TO 1000:NEXT G:? " ":RUN
```

BOUNCE

This simple drawing program by Joel Gluck first
appeared in ANALOG. The surprise feature occurs
when you are finished designing your masterpiece.
Put down your joystick, press the space bar, and
watch what happens.

```
120 GOSUB 160:REM - INIT
130 GOSUB 280:REM - DRAW
140 GOSUB 470:REM - BOUNCE
150 GOTO 130
160 REM - INITIALIZE
170 DIM XD(15),YD(15)
180 FOR Z=5 TO 15:READ A,B
190 XD(Z)=A:YD(Z)=B:NEXT Z
200 DATA 1,1,1,-1,1,0,0,0
210 DATA -1,1,-1,-1,-1,0,0,0
220 DATA 0,1,0,-1,0,0
```

```
230 GRAPHICS 5:POKE 752,1
240 SETCOLOR 0,0,13:SETCOLOR 1,9,2:SETCOLOR 2,0,0
250 X=40:Y=24
260 COLOR 3:PLOT 0,0:DRAWTO 79,0:DRAWTO
79,39:DRAWTO 0,39:DRAWTO 0,0
270 RETURN
280 REM - DRAW
290 SETCOLOR 2,12,6
300 ? :? "* Use stick to draw walls,"
310 ? "* Hold trigger to erase,"
320 ? "* Hit ESC to clear screen,"
330 ? "* Hit SPACE to bounce.";
340 COLOR 1:PLOT X,Y
350 J=STICK(0)
360 IF PEEK(764)=33 THEN POKE 764,255:RETURN
370 IF PEEK(764)=28 THEN POKE 764,255:GOSUB
230:GOTO 290
380 IF J<>15 THEN 400
390 LOCATE X,Y,G:COLOR 3-G:PLOT X,Y:GOTO 350
400 A=XD(J):B=YD(J)
410 IF X+A<1 OR X+A>78 OR Y+B<1 OR Y+B>38 THEN
350
420 SOUND 0,(200-X-Y)*STRIG(0),8+2*STRIG(0),4
430 COLOR 3*STRIG(0):PLOT X,Y
440 X=X+A:Y=Y+B
450 COLOR 1:PLOT X,Y
460 SOUND 0,0,0,0:GOTO 350
470 REM - BOUNCE
480 ? :? :? "* Hit SPACE to draw.":?
490 COLOR 1:PLOT X,Y:A=1:B=1:L=0
500 IF PEEK(764)=33 THEN POKE 764,255:RETURN
510 LOCATE X+A,Y+B,G:IF G<3 THEN COLOR 2:PLOT
X,Y:X=X+A:Y=Y+B:COLOR 1:PLOT X,Y:L=L+1:GOTO 500
520 SOUND 0,L*4+20,10,8:LOCATE X+A,Y,PA:LOCATE
X,Y+B,PB:SOUND 0,0,0,0:L=0
530 IF PA>2 THEN A=-A:GOTO 570
540 IF PB>2 THEN B=-B:GOTO 590
550 IF PEEK(53770)>127 THEN B=-B:GOTO 500
560 A=-A:GOTO 500
570 IF PB>2 THEN B=-B:GOTO 500
580 COLOR 2:PLOT X,Y:Y=Y+B:COLOR 1:PLOT X,Y:GOTO
500
590 IF PA>2 THEN A=-A:GOTO 500
600 COLOR 2:PLOT X,Y:X=X+A:COLOR 1:PLOT X,Y:GOTO
500
```

BALL

A ball of rainbow colors is formed from the outside in.
When it is completed, the colors rotate within the sphere.

```
100 REM GTIA TEST
```

```
115 DIM C(8):GRAPHICS 10:FOR Z=704 TO 712:READ
R:R=R*16+8:C(Z-704)=R:POKE Z,R:NEXT Z
116 DATA -.5,1,3,4,5,7,9,12,13
118 LIM=22:T2=3.14159*2/LIM:COL=3:E1=1:DIM D(LIM,2)
120 GOSUB 1500:FOR V=1 TO LIM:T=T+T2:GOSUB
1500:NEXT V
400 GOTO 1000
490 REG=705
500 FOR X=1 TO 8:POKE REG,C(X):REG=REG+1:IF
REG>712 THEN REG=705
510 NEXT X:REG=REG+1:IF REG>712 THEN REG=705
520 POKE 77,0:GOTO 500
1000 REM
1005 FOR E=1 TO 10:E2=INT(E/2-0.5)
1010 FOR R=E1 TO E1+E2:CR=8-COL:IF CR=0 THEN
CR=8
1015 V=0:COLOR CR:GOSUB 2000:PLOT X,Y
1020 FOR V=1 TO LIM:T=T+T2:GOSUB 2000:DRAWTO
X,Y:IF V>=LIM/2 THEN COLOR COL
1025 NEXT V:NEXT R:COL=COL+1:IF COL=9 THEN
COL=1
1030 E1=E1+INT(E/2+0.5):NEXT E
1200 GOTO 490
1500 D(V,1)=SIN(T):D(V,2)=COS(T):RETURN
2000 X=(30-R)*0.6*D(V,1)+40:Y=60*D(V,2)+80:RETURN
```

Stuck in a Rut

by Sam Wright

My first adventure game experience I can recollect was in intermediate school. It was the end of lunchtime and several kids were hunched over a round table murmuring about something regarding a gargoyle. Intrigued, I tried to get a glimpse at what was the source of their heated debate. Half-expecting the preparation of an amateur autopsy with plastic forks and half-expecting a gargle-the-loudest contest, I stayed within a teacher's arm's reach and peered beneath someone's armpit. What I saw was somewhat of a letdown and disappointment: dice and a solitary piece of graph paper with penciled-in boxes. Was that what all the commotion was about? What happened to the gargoyle?

A few months later, my father showed me a game called *Colossal Cave* on his mainframe at work. Not knowing how to type more than two words per minute, I quickly became frustrated with it and dismissed it as too technical to comprehend (not exactly those words, more so: "you stupid computer").

What finally hooked me on adventures was, oddly enough, a series of books I got for Christmas a few years before but never touched. Choose Your Own Adventure, it was called, with each story featuring me as the main character and placing me in exotic locales in different situations with a specific goal to accomplish. Beginning with page one, I would read until I came to a series of choices. If I wanted to do so-and-so, turn to a certain page. If I wanted to do something else, turn to another page. And so on. I thought they were just about the most wonderful books I'd ever read and tried to get each new one as it was released, allowance permitting.

A few weeks later my family purchased an Atari 800 and a few weeks after that my mother bought me my first game, *Zork I* (it was the year of the adventure, apparently). From the Zork trilogy, I branched out to adventure game makers Scott Adams' SAGAs, Sirius, Penguin, DataSoft, Sierra On-Line's SierraVentures, and finally to the adventures on the Atari ST.

Within that time I had learned BASIC and was writing (although never going as far as completing) my own adventure games. Some I wrote in the style of Choose Your Own Adventure (which later wound up on

The Multiple-Choice Adventure and Creator: Talespin

the BBS as Choose Your Own Online Adventures with ATASCII graphics), some simulating Scott Adams' verb-noun format with a few added tools of grammar (indefinite and definite articles, adjectives, pronouns, multiple sentences) and other features (moving a joystick in a compass direction rather than typing, scrambled note and point accessed text, saved games as filenames, status line at the top of the screen). All in all, I came to the conclusion that writing adventures was as much fun (if not more) as playing them.

So now, several years later, I thought I had covered the major genres of the adventure game, completely forgetting the root of it all: the multiple-choice adventure (or choose your own adventure or which way adventure, etc.). How could I have omitted the very type that first piqued my interest?

But then I looked around and realized there really wasn't anything available in the style of the multiple-choice adventure. Perhaps it would be considered too easy or too insulting for its intended audience. Or maybe it would've been viewed as a shoddy and expensive version of the book. After all, cuddling up to a convenient-sized and cheap book that achieved the same pleasure was much better than a computer version could ever be.

MicroDeal has solved all of those points with the release of *Talespin*, a "graphics adventure creating system." You can finally create those multiple-choice adventures you've always wanted to and flood the market with them (MicroDeal allows you to commercially distribute its run-only module along with programs you write without paying them royalties).

Talespin will only run on an Atari ST with a color monitor and consists of two single-sided disks: the program disk and *The Grail*. Both are not copy-

Castle from the Grail with stick figure inserted.

protected and can be loaded off a hard drive, placed on a double-sided disk, or run from a RAMdisk.
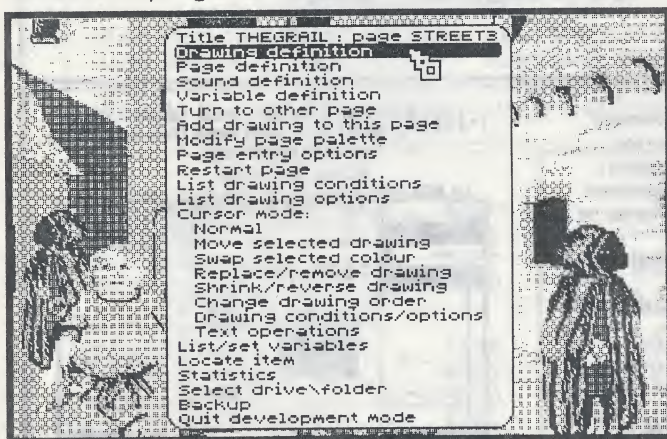
Playing *The Grail*, a smaller version of the commercial game created with *Talespin*, will give you a feel for the sort of adventures you'll soon be able to create. Totally mouse-driven with pop-up menus, pointing and clicking the characters kicks off their dialogue ending with a decision you'll be asked to make. Once chosen, the story continues based on your selection. With great graphics and sound (digitized from MicroDeal's *Replay 4*), the quest for the Holy Grail becomes more accessible with every correct decision (because the "wrong" decision doesn't result in instant death, you're never quite sure if your last decision was indeed the correct one).
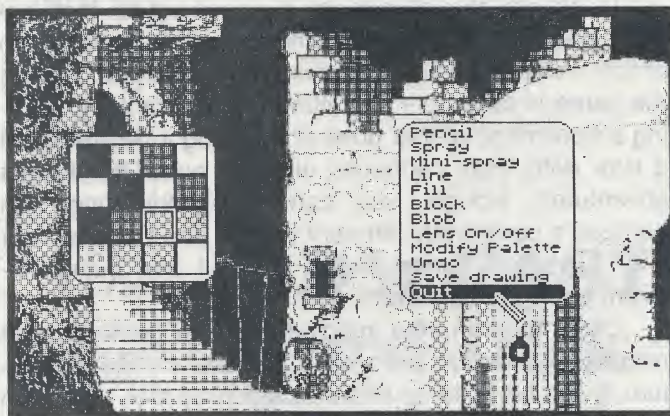
A simple click of the mouse and you'll jump into development mode (also completely mouse-driven) and be able to modify *The Grail* to your heart's content (not to mention cheat). I've always found hands-on experience the best way to learn and with *The Grail* and the two other samples (*Start*, a brief introduction to the manual, and *The Wolf*, a gruesome Little Red Riding Hood tale) you'll have plenty of that. In fact, by experimenting with the various commands I was able to create a simple game without opening the manual.

Talespin development mode menu.

That's not to say the manual should be overlooked. Complete and with a thorough table of contents and index, it's easy to read and understand. Working with the "Doing It Yourself" chapter, you'll create a girl-meets-boy adventure with two outcomes: the boy submits or rejects her. You'll learn various tricks to using the same pictures over and over (copied, reversed, and shrunk) to give the impression of a different scene, thereby saving time, space, and memory ... while looking as if you sacrificed extra time, space, and memory. A chapter is devoted to how to go about starting an adventure and what to do when you've completed it. The manual concludes with a comprehensive reference section, recapping all the commands you'll run into in a brief descriptive format (previously detailed early on in the book).

Although graphics are an integral part of Talespin-created adventures, the drawing menu offers a minimal amount of functions. Fortunately, the importing of low-resolution DEGAS and NeoChrome files are permitted. For my drawings, it sufficed (however, my pictures inevitably end up earless stick figures with lots of solid colors in the background). *Talespin* also includes library files of letters and pictures for importing into your own adventures, as well.

Talespin drawing definition menu.

Sound is supported using *Replay 4* (formerly *ST Replay*) and compatible .SPL files. This can range from a hideous laugh when clicking on a villain to extensive digitized speech. I would recommend against using this option, though. Not only do the sound files consume vast quantities of space (you're limited to around 64K per page on 512K machines) but the quality of the sample, especially at a low kilohertz, can be too muffled to understand. Still, it might provide a nice surprise as the plot thickens and climax approaches.

The creation of *Talespin* adventures is startlingly simple and even follows a book premise. The entire adventure rests on a series of blank, interconnected pages. Beginning with the first page, a picture is added along with characters and dialogue (either straight words or decision-based) and perhaps sound. Additional pages are then added in the same manner based on those decisions. Because of the complexity potential, you should either plot out the entire adventure on paper before committing it to the computer or write down the choices as you go along so none are neglected. With *Talespin*'s flexibility, there'll still be room for last-minute additions.

Dialogue doesn't have to be the same every time. It can be dependent on previous actions through *Talespin*'s variable definitions. For example, if you pet the moose at the beginning and you meet him later on as the cashier in a supermarket, he may offer you a ride into town. Otherwise, he could take you back to where you started (giving you a chance to pet him once again but having to travel all the way to the supermarket again).

Once finished, the adventure can be compacted to save space and then saved in one of three formats: unlocked (for further development), locked (final version for distribution where no one can access portions of your game other than playing), and locked and autorun upon loading (for use as a demonstration). When autorun, *Talespin* will randomly "play" the game forever, useful in playtesting for those unexpected and un-thought of situations.

In playing the adventure, it opens up to that first page and branches out to other pages depending on which multiple-choice command you selected. Saving the game is as simple as setting a placemarker (insert-ing a bookmark) at that point and finding it (restoring) at a later date. Play continues until the end. Unlike most adventures, though, you can replay this one with perhaps a completely different ending (the Choose Your Own Adventure series always boasted how many dif-ferent endings there were).

Depending on your imagination, your game doesn't necessarily have to be a strict multiple-choice adven-ture; it can be quite an effective teaching tool. I envision someday drawing a picture of a large VCR with all of its outer components attached to dialogue boxes of text. Maybe my mother will then finally be able to set its blinking clock after a power failure (assuming she's willing to sit down in front of the computer in the first place). Another use could be disks that Buick has been distributing to IBM and Macintosh owners. A click onto a car door and it opens! A click on the front hood and it raises, giving statistics about the motor while humming smoothly. Or, *Talespin* could be used as a training system. What is that thingamabob that connects the motor to the thing that looks like a giant pretzel?

With *Talespin* allowing your adventures to span as many disks as you want through a chaining process, what you create can be as long as your creativity lasts. The possibilities are truly much more than only a game: a learning tool disguised as a game!
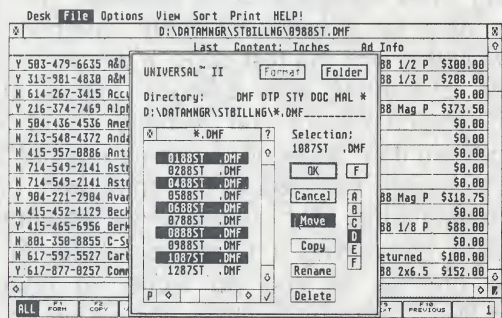
Next time we'll get back on track with hints to *Deja Vu II*. I can now rest knowing that all the types of adventures have been covered (or have they?).

[Talespin is available from MicroDeal for $49.95. It runs on all Atari ST computers with color monitors and is not copy-protected.]
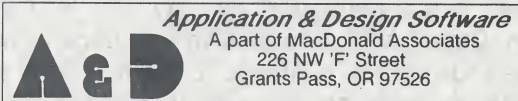
Current Notes Magic/Spectre Library

These disks contain Mac programs for use with the Spectre/Magic Sac Macintosh emulators. Disks numbers prefixed with an **M** are for the **Magic Sac** and those with an **S** are for the **Spectre**. Disks numbers followed with a **D** indicate a **Double-sided disk** format.

Note: many of the Magic programs also work with the Spectre 128, but not all. Adventure-type games now **do work** with v1.9 of Spectre with the sound turned on.

Desk Accessories

M8: DAs #1--3DTTT Game, Art Thief, Ascii, Bagels Game, Big Ben, Calculator, CopyFile, DA Tester 1.5, Delete File, Desk Acc. Tester, DeskZap 1.2, Eject&Reset, Extras, File Hacker DA, File Tools, Font Grapper+, Font Grapper3, Hex Calculator, HP 12c, MemScan, MemWindow, MerriMac BlackJack, miniWriter, Mock-Terminal, MockWrite, Moire, MW Count, Other 3.0, Puzzle, Reader, Rubik's Cube, Sampler, Scrapbook, Scientific Calculator, SetFile 3.3, SkipFinder, TheBox, Tiler 1.5, Trails, Transfer, TrapList, Utils, Word Count, Zoom Idle.

M18: DAs #2--About Popup.txt, Alarm clock, Art Grapper+, Calculator+, Choose Scrapbook+, DA File, DA Tester 1.5, Disk Labeler, DiskInfo 1.45 + SICNs, Explorer, Gone Fishin', Hex Calc, Label Maker, MemWindow, MiniWRITER 1.34, Multi-Scrapbook, MW 4.5 Counter.DA, Popup 1.0, ProCount, ReadiPrinter, Ruler, SFstartup 1.0, Skipfinder 6.1, Sleep, Stars 1.6, Stars II, Sysfonts, TeaTime, Timer.

M46: DAs #3--35 DAs: 3D Tic-Tac-Toe, A-Bus ID Poker, Abacus, Calendar, Cheap-Paint, Collapse, ConCode, Crabs2, DAFile, DAFont, Disp.Msg, Double Apple, Executive Decision, FatMouse. FixPic2.0, Flow, Fun House, Func Keys, Font, Idle, KeyMouse, KnockOut, Multi-Scrap, MW to Text, New MiniDos, Orig Clock, PaintDA, Poker, Pro-Count, Ruler, Tiler1.5, Timelogger2.11, Utilities, Wrap, WXModem, Sample It.

Utility Disks

M2: Telecom Disk #1--BinHex 5.0, Free Term 1.8, FreeTerm.Doc, Kermit, PackIt III (V1.3), StuffIt 1.0, TermWorks 1.3.

M3: Utilities #1--DES, Font Doubler, Mac-Dump, Mini Finder, PackIt III (V1.3), Reverse Screen 1.0b1, RMover, Scan, Set File, Slicer. Version Reader 1.1, Write Stream.

M5: Disk Librarian--Disk Librarian V1.82A. Disk Librarian Doc, Short Doc. Contains listing of CN Magic Library. **

M9: Utilities #2--Bind Icons, Change Appl. Font, Convert Desk Acc., Desk Accessory Mover, File Hacker, FontDoubler, Index,Make-Screen, MicroFinder, Purgeicons, RamAStart 1.3, REdit, ResEd, SelectPaint, Show Version, User Interface Demo.

M11: Print Utilities--Coventry-12, Disk Labeler, Fast Eddie, Font Mover, Ink, Mac-Write 4.5 to Text, miniWriter, MockWrite, Pica-10, ReadMacWrite, Walla Walla-9.

M27: Utilities #3--Browse/Shazam!, Clocks: analog & digital, Edit, FEdit 3.0, launch, lazymenu, Magic Beep 1.0, Menu Ed,

microFinder, Quick Dir, Quick Print, RamStart2.0+, Road Atlas, ShrinkToFit, SicnEdit, SortMenu, SortMenu Code, SuperFinder4.0, TabsOut, Unpit, WayStation.

M28: Red Ryder 7.0--Red Ryder 7.0, Red's 7.0 Stuff, RR7.0 Macros,RR Docs.

M43: Utilities #4--DiskDup+, MacSnoop 1.03, RamDisk+ 1.4, ResTools 2.01, Oasis 2.01, Font Librarian, Switch.

Games

M4: Games #1--Backgammon, Bash Big Blue, Curves, MacLuff, MacYahtezee, Maze 3D, Meltdown, Missile Command, Munch, PepsiCas,Smile, Snow, Solitaire, Space Bubbles, Vax Runner II.

M6: Games #2--Ashes, Black Box, Destroyer, HexPuzzle, Killer Kalah, MacPoly Demo, Office Attack, Point Symmetry Demo, Snake, Solitaire, Trophy List, Wall Game, Wheel.

M7: Games #3--Ashes, Break the Bricks, Deep Ennui, Go, Mac Gunner, MacBugs, MacCommand, MacYahtzee, Wiz Fire 1.1

M15: Games #4--Alice, Amps 3.0(B2), Bricks, Canfield 2.0, Iago, Lets·Get Tanked!, MacHeads, Nim, Space Attack, Third Dimension.

M20: Games #5--Chase'Em, Crystal Raider, Daleks, Golf MacWay, Kill File, Kill, King, King MacWrite, On-The-Contrary, StuntCopter1.2.

M21: Games #6--Guess, Hacker's Contest, Hot Air Balloon, Match, Ramm1.0, Third Dimension, Trick-Track, Utaan Attack, Zero Gravity.

M25: Games #7--Billiards, Cross Master Demo, Flash Cards, Hangman-9.0, MacLuff, Master Guess, Safari 1.0, Venn.

M30: Games #8--Bowl-A-Rama, MacTrek 1.1, Mystery Box 1.0, Shots, Star Trek Trivia Quiz, Window Blaster 1.0.

M34: Games #9--1000 Miles, Asteroids, Cairo ShootOut!, Donkey Doo, Duck Hunt, Pente 1.0.

M45: Games #10--Blackjack 4.0, Gunshy 1.0, Humpback, New Social Climber, Panic, Puzzle 1.0, Star Trek Trivia Quiz, VideoPoker.

M51: Games #11--Bouncing Balls, Fire Zone, Mac Word Hunt 2.0, Out Flank, Risk and Word Search.

M53: Games #12--3D Checkers 2.0, Bills Casino, BMX-The Racing Game, HeloMath, Mouse Craps.

M58: Games #13--Klondike 3.6, Space Station Pheta, Mac Concentration, Sitting Duck, Hot Air Balloon 2.1, Think Ahead+2.0.

M60: Games #14--Golf Solitaire, Mac Football, Euchre 2.2, Gomoku, Pyramid, Checkers, Runaround and Macpuzzle 1.0.

M19: Pinball Construction Set Games--Player + Games: Apple, Black Hole, Face, KalinBall, Madonna, Minute-Mag, Patchwork Mess, Phantom, Pure-Gemme, Samurai, The Royal Pain, Wizards Lair. **

M29: PCS Games #2--Player + Games: Circus Circus, D &D , Diadora, Max, Merlin, Modern Mistress, Queston, The Royal Pain, Twilight Zone, Whazit. **

Adventure Games

M17: Dungeons of Doom 4.0.

M23: Vampire Castle.

M24: Deep Angst--1 Mb ST only.

M31: Black Wizard.

M36: Castle of Ert.

M40: Hack, V1.03--incl manual w/docs.

M41: Radical Castle.

M63D: Mountain of Mayhem.

M65D: Deep Angst II

M66: Intruder.

Graphics

M10: Graphics #1--Amy, Artisto, ball demo, Big Ben, Brooke, Bugs, Curves, Display Message, Dragon, Fighting 51, Fourth Dimension, GARF, HotSex!, Liar's Club, Living Art, Max Headroom, Moire 3.0, Nightmare, Optical Illusion, Paint Grabber, Painter's Helper #1, Pattern*, Pisces, Rotations, Saddle, The Fourth Docs, ViewPaint 1.5.

M12: MacBillBoard--Chipmunks, Donald & Daisy, Goofy At Bat, Announcement, Babe Ruth, Carrotprint, Classic illusions, Escher, Escher Hands, MacBillBoard (MacPaint clone), Max, Mickey and Minney, mm, Quick Tour, T-Shirt. **

M22: Graphics #2--BlowUp 3.0, BlowUp Notes, CalendarMaker 2.2.1, Dynamo, Graphic, MadMenus, Math21, Rays, Simutree, Spiro, Tree, Vanlandingham.

M26: Graphics #3--3D Sketch, AniRama, Bin/Graphics, Brownian Motion, Control, Fractal Contours, Fractals, Icon Collector, Julia, MakePaint, Melting Clock, Small View, ShapeArt, StarFlight, Window Demo.

M47: Graphics #4--Cursor Designer, Earthplot3.0, Graphics2.0, Mondrian1.0, MotionMaker2.0, Moving Finger, Wallpaper, Zoomation.

M57: Graphics #5--Micro Film Reader 1.4, Bomber, Iliana II, Preview, Super Ruler 1.1, and XVT-Draw.

Font Disks *·**

M13: Fonts #1--Akashi, AlgBlurb, Algebra, Athens, Boxie, Dover, Geneva, Hood River, ImageWriter, LED, London, Los Angeles, Luxor, Mars, Monaco, Park Ave, Pica, Ravenna, Rome, Runes, San Francisco, Seattle, Steel Brush, Ultra Bodoni.

M14: Fonts #2--Bookman, Courier, Coventry, Dali, Genevaa, Hebrew, Manteco, Shadow Box, Sri Lanka, Times, Walla Walla, and font display 4.6 w/docs.

M16: Fonts #3--About Lachine, Alice, Avante Garde, Berkeley, Broadway, Camelot, Cartoon, Centura, Chancery, Eon, Exeter, Fallingwater, Fantaste Key, Fantaste!, Future, Ham, Helvitica, Hollywood, Lachine, Lineal, Madrid, Pittsubrg, San Quentin, Silicon Valley, Stencil, Unicol plus DAFont2.da and Sys-Fonts.da.

M32: Fonts #4--Canberra, Chicago, Humanistic, Music, New Dali, Palencia Application, Palo Alto, Pioneer Shadow plus F/DA sorter and Font Tester.

M35: Fonts #5--Beehive, Beverly Hills, Boise, Chicago, Courier, DeStijl, Ham, Happy Canyon, Helvitica, Mod. Chicago, Old English,

Square Serrif, Sri Lanka, Worksheet.

M42: Fonts #6--Berlin, Boston II, Courier, Dorza, Highwood, MicroBoston, MiniBoston, New York, Palo Alto, Sparta, Stiletto, Symbol, Tatooine, Venice, Wartburg.

M44: Fonts #7--42nd Street, Aldous, Art Deco, Ascii, Blockbuster, Border, Clairvaux, Coptic, Deep Box, Ivy League, Klingon, Las Vegas, Little Box, Madrid, Memphis, Minneapolis, Rivendell, Spokane.

M50: Fonts #8--Alderney, Cairo, Cyrillic, Greek, Paint, Playbill, Rehovot, Runes, Washington, Zodiac.

M61: Fonts #9--New Century, Helvetica, Columbia, Minneapolis, Creamy, Palatino, Detroit, and Zap Chancery.

M64: Fonts #10--York, Paint, Miscpix, Icon, Cupertino, Arabic, Fallingwater, Schematic, Moscow, and Isengard.

M67: Fonts #11--Cavanough, Icon2, Fletcher, Math-Greek, Toyland, Troyes, Memphis, Provo, Scan, Tombstone, Southbend, Klingon, Wall Street.

Clip Art **

M33: Clip Art #1--AirCraft, Business, Car Logos, Cars & Trucks, Clip Art Demo, Disney, Eyeballs, Flowers, Misc, Seasons,Trees1, Trees2, ViewPaint 1.5.

M52: Clip Art #2--Al & Jimmy, Americana, Arrows, Bigger Guys, Billboards, Borders, Cars, Cartoons, Cats, Celebrities, Egret, Famous People, Farm Animals, Good Guys, Gorilla, Hopefuls, Little Guys, MacLectic Clip Art, More Little Guys, Presidents, Rain/Chef, Skier/Football, Skylines, Space/Race, Statues, Tennis/Running, Wine & Beer.

M55: Clip Art #3--Animals, arrows, books, business, calendar, computer, disk, files, geography, holiday, houses, icons1-6, mail, memo, misc1, misc2, money, music, office, people and symbols.

Commercial Demos **

M37: Mac-A-Mug Pro Demo--Ver 1.0, Create your own mug shots by combining a variety of different facial features.

M38: Video Works Player #1--PD player for Video works animated screens w/11 movies.

M39: Demo Disk #2--Anatomiser, Desk-Paint, and SuperPaint.

M54: Design--Full working version but no save feature. Includes 5 samples and full documentation.

M59D: Demo Disk #3--Demo version of Kaleidagraph and Geographics II.

M62: Demo Disk #4--Math Blaster and Blob Manager Demo.

Hypercard Disks **

M48D: HyperStacks #1--Address, Databook, Fractal, Funy Day, Home Desk, Hyper-News 1.2, HyperZoetropes, MacGallery, Mac-Vermont #2, Notebook, Periodic Table, and ResEdit IPS.

M49D: HyperStacks #2--Ear, Illusions, Passing Notes, Shipstack, Silly, and US States V2. NOTE M48 and M49 require HyperDA using 64K ROM Spectre or Magic Sac.

M56D: HyperStacks #3--Contains only 1 hyperstack, Atkinson's 786K Clip Art Stack, with 500 pieces of clip art. Requires HyperDA when using 64K ROM Spectre or Magic Sac.

** Spectre 128 compatible.

Spectre 128 PD Library

Note: These disks require Spectre 128 (128K ROMs) and DO NOT work with 64K ROMs unless otherwise noted.

S1: MacWrite 5.0 Demo--(Cannot print/save but can load and read doc files.)

S2: MacPaint 2.0 Demo--(Cannot print/save files but can load and view and create them.)

S3D: Red Ryder 9.4--One of the most powerful telecommunications programs available for the Mac. Full docs and utilities included.

S4D: Aldus Freehand Demo--A Videoworks II interactive demonstration of Freehand drawing program.

S5: Games #1--Banzai, Monopoly 4.0, ATC 4.0, Mines, New Daleks, Brickles 4.0

S6D: PowerPoint Demo--(64K ROMs Compatible) Fully working demo version of this popular Mac program for planning, composing, andcreating complete presentations (Also works with Magic Sac).

S7: Games #2--Space Bubbles, Stratego, Investigator #1, Towers of Hanoi, Marienbad.

S8: Image Studio Demo--(Does not save) A photo retouching lab on the desktop, modify digitized images in 65 grey scale levels.

S9: Telecom #1--StuffIt 1.51, StuffIt Users Guide, Freeterm 2.0, Freeterm 2.0 Documentation, TermWorks 1.3, Packet III ver 1.3.

S10D: Stacks #1--Concentration, Hyper-Gunshy, Dinosaurs, AutoStack, Home 1.2.

S11: Utilities #1--MacEnvy, Benchmark, DiskTimer II, SampleIt 1.21, SampleIt Docs, Apfont 3.2, HierDA, Fever, OnCue 1.3 DEmo, ScreenDump II, Findsweel 2.0 Demo

S12D: Full Impact Demo--Spreadsheet program with even more features then Excel. (No save feature.)

S13D: Stacks #2--VisualStack, Chem Flash Cards, DisplayPict 1.4, Indigo Gets Out, AutCat, Animal Stack, Comic, OnTheBeach, Name That Plane.

S14: Utilities #2--Big Das runner, Mac II Icons, DiskParam, Utilities 1.5.1 Guide, Un-stuffit DA 1.5.1, Auto Unstuffit Installer 1.5, Repair 1.2, ICON Designer, Viewer 1.5.1, SuperClock 3.1, SuperClock Doc ToMultiFinder, Interferon 3.1.

S15: Games #3--Darts, MacCamelot, BricklesPlus, Gravitation 4.0, Swamplord

S16: DAs #1--NekoDA, BezierDa and Docs, SnapShotDA 1.2, Adventure, VirusDetective, BreakKey, SysErrTableDA, PinUp Clock DA, Freemem, New Scrapbook DA

S17: Sounds #1--SoundMaster w/22 sound files for use w/V1.9 of Spectre.

S18: Graphics #1--1Dmata, DAfx 1.32, 3dEDIT, Fly Saver, Kaleidoscope, Optical, Pattern Blocks, Rae, Turbo View 1.01, Mac-Paint Shortcuts, Desktop Shortcuts.

S19D: Hyper Utilities #1--Deprotect Stack, XPICT, Moving Cursors Tutorial, Button Manager, Stack Compacter, Field Line Numberer, CardMover, Six Little Goodies, MH PowerScripts Sample, ShowDialog 1.5.

S20D: MacDraw II Demo--VideoWorks format takes you through tour of latest features.

S21: Utilities #3--File Scan, Jaws Icon, File Master Icon, File Monster Doc, SnapShot

Installer, Black Hole 6.0.2, Looney Tunes Icons, Dog Trash Icon, Shredder Icno, UDS/M1.1, Virus RX 1.4a2, System Font. Note: Some of these icon files require ResEdit for installation.

S22: Sword of Siegfried--Graphics/text adventure (requires v1.9 of Spectre).

S23: Sounds #2--demo version of Mac CD 1.0. Sound files may also be used w/Sound-Master on #S17. (10000 Marbles, Any Sound 1, Any Sound 2, Bad Disk 1, BVad Disk 2, Beep, Beep Sound 1, Disk Sounds 1-4, Don't Worry Be Happy, Ka-Chung!, Rolling Your Own, Type Key 1, Type Return 1, Type Space 1.)

S24: Games #4--Dragon 2, Zoony, Mazer-Lazer, and demo version of ShufflePuck.

S25D: MacMoney Demo--Personal finance program, full-featured demo. prints but does not save.

S26: Fkeys #1--23 fkeys and fkey related applications (AnalogClock, Clock, CopyDisk 3.0, Craps. F-KEY Installer, FadeKey, FileInfo, fkey, Fkey File Installer, Fkey-DA Sampler 2. FkeyView 2.5, FullMoon Calender, InfoKey, LaunchKey, MacAlmanac, Pipeline, ResC-Viewer 4.5, SafeLaunch 2.2, SpaceWarp, Strip-Tease, Unpack, Ver Reader 3.0 and Windows.

S27: Games #5--3D Checkers V2.0, Ballistics 2.0, Consternation 1.0, HangMan, Peg Puzzle Pak, UnBreakout.

S28: DAtabase Builder Demo--Full featured database (including graphics) in a Desk Accessory.

S29: Sounds #3--Talking Moose 1.21 and 9 sound resources for MacCD (#S23) or SoundMaster (#S17)--Archie, Bad Disk 3, Beep Sound 2, Disk Sound 5, Disk Sound 6, Key Click 1, Oh Yeaaahh!, Mac Sound 1, and Startup Sound 1.

S30: Utilities #4--Init Cdev, Assassin, BundAid, Curse the Finder. Easy Icon, Finder Cursor Icons, Finder Icons. HD Mini-Icon, IconManager 1.1, JerryCan, Murphy Init, NeVR Init, ScrollMBar CDev, System Icons+. Version Sleuth 1.0, What, and Windows.

S31: DAs #2--Address Book 1.1.2 w/docs, Artist+ 2.01 w/docs, BlackJack, Calc 3.0, Calendar 1.7, Catch, dCAD 3.0 w/docs, Diskinfo 1.2, Maxwell 2.2a, MegaCalculator. SuperHelp w/docs. VirusDetective 2.2.1 w/docs. and windows.

NOTE: CN disks **cost $4.00 each,** but discount prices are available for quantity orders:

10+ disks ($3.80 each) 20+ disks ($3.60 each) 30+ disks ($3.40 each) 40+ disks ($3.20 each) 50+ disks ($3.00 each)

Add $1/6 disks for shipping and handling.

Order from CN Library, 122 N. Johnson Rd, Sterling, VA 22170.

CURRENT NOTES ST LIBRARY

GAMES

#21: GAMES NO.1. (C) Megaroids, Mastermind, Othello, Backgammon, Ripcord, Target, Life, Journey

#37: GAMES NO.2. (C) BASIC Games(Bomber, Scratch, Switchbox), Celestial Caesers, Ripcord, Score4, Battleship, Blackjack, Mad Libs, Maze Maker, Mylife, Box the Dragon, Mastermind, hints for SUNDOG.

#39: ARCADE DEMOS. working demos of JOUST, TIME BANDITS (ver .96), and CRACKED.

#54: MONO GAMES NO.1. PuzzlePuzzle, move forward through labyrinth by completing puzzles.

#62: HACK. Dungeons and dragons like game where you (the adventurer) descend into the depths of the dungeion in search of the Amulet of Yendor

#80: MONO GAMES NO.2. MONOPOOL – a pool game with 6 balls; KRABAT – a chess game for beginning to intermediate players.

#100: GAMES NO.3. (C) Football, Break Out, Missile, 4 Adv. Games (Larn, Magnon, Twilight Zone, & Ogre).

#101: GAMES NO.4. (C) Atartrek, Celestial Caesars (new ver.), Krabit (chess), Twixt, ST Aggrevation.

#112: GAMES NO.5. (C) Checkers with 6 skill levels; A slot Machine; Warzone and more.

#122: GAMES NO.6. (C) Monopoly, Haunted House, Backgammon.

#135: SHANGHAI DEMO PROGRAM. (color or mono). full implementaton for single puzzle, solitaire version only.

#139: MONO GAMES NO.3 larn2, ogre, ataritrek, maze maker, checkers, battleship, window ball.

#140: GAMES NO.7 (C) Tripple Yahtzee, Wheel of Fortune, Pente, Sensori, Spacewar.

#141: GAMES NO. 8 (C) Azarian and DGDB (similar to SHAMUS).

#153: EAMON ADVENTURE GAMES (Color/Mono) All the latest versions (Eamon Beginner's Cave; Devil's Tomb, Eamon Death Star, Holy Grail), 1st Eamon game version: ver 2.0 of main hall).

#164: GAMES NO.8 (C) Stone Deluxe, Ship Combat, Lander, and Lunar.

#178: BREACH SCENARIOS. 16 Breach scenarios ranging from easy to the star level.

#179: GAMES NO.9: KID FUN #1. (C) For younger kids: musical keybaord player (Kid Notes), simple version of concentration (Barnyward), simplified drawing program (Kid Sketch), doodle drawing program, and keyboard piano (Deluxe Piano Player).

#186: MONOPOLY (C). Includes GFA Basic source code to this popular board game.

#187: WHEEL OF FORTUNE, V2. (C) Includes 26 puzzle files (beatles, child, clothes, computer, fauna, film Lit, Flora, Fun, Old Test. Bible, Software, Shield. Titles, US Air, Vacation, Yum-Yum).

#188: MEAN 18 COURSES NO.1 (C) Cauldron, Peter Pan, Prince 18.

#189: MEAN 18 COURSES NO.2 (C) Devil Driver, Forest 18, Hell Hole.

#190: MEAN 18 COURSES NO.3 (C) Agony 18, Fireline, Watery 18.

#207: STATISTICALLY ACCURATE BASEBALL. Although no graphics, this shareware game will be a favorite of baseball fans. Includes data for 4 teams: ('62 Giants, '70 Reds, '84 Cubs, and '86 Mets) NOT FOR MEGA.

#208: GAMES NO.10. (C) Milborne, G-Ranger, NIM, Trucker, Darts.

#209: GAMES NO.11. (C) Poker, Black Jack, Roulette, and Slots.

#210: GAMES NO.12. (C) Two versions of Pacman, create your own jigsawpuzzles from Degas pics, drive race car around track and create your own tracks with Degas, prg to make you invincible while playing Time Bandit.

#211: GAMES NO.13: KID FUN #2. (C) Kid Music, Kid Piano, Kid-Potato, and Kid Mixup.

#212: MONO GAMES NO.4. (M) Spaceway, Megaroids, Runner, and Squixx.

#213: MONO GAMES NO.5. (M) Adventure writing system, Daleks, Krabat2 (play chess), Stocks and Bonds, Eliminator, 2 desk acc games (breakout and reversi).

#225: BREACH & EMPIRE. 14 scenarios for use with Breach. Collection of maps for EMPIRE players as well as the fixsave prg which allows owners of older versions to use the play-by-mail option.

#230: MONO GAMES NO.6. (M) Cribbage, Draw Poker, Mega Maze 1.1.

#240: GAMES NO.14. (C/M) Bog V1.2 (Boggle clone w/dictionary), Core Wars (knowledge of assembly language programming recommended), Escape (good adventure-type maze).

#257: BASEBALL. Play baseball! Includes programs to create your own teamd and evaluate the statistics.

#261D: STARTREK. (C) The Next Generation. command your own battle cruiser in this space-age simulation (1 Mb & DS drive).

#269: MONO GAMES NO.7. (M) Anduril, Ballerburg, Diamond Miner, Invaders, and The Snafu Principle. (Includes monochrome emulator prg so mono programs can run on color monitor.)

#273: GAMES NO.15. (C) Hacman (Pacman clone), Jumpman (Qbert clone), Escape (adventure game).

#274: GAMES NO.16. (C) Midway Battles (wargame of battle of Midway) and Hero! V1.0 (shareware adventure game).

#275: AIR WARRIER, V0.8. Flight simulator for private practice or multi-player aerial combat simulation on GEnie.

#282: DAMONOID. (C) Arcade game. NO MEGA.

#283: ADVENTURE GAMES. System 5, Once A King, El Bozo's City Out of Bounds.

#293: DUNGEON MASTER MAPS. Maps and a cut'n'paste spell chart to aid you in your quest in Dungeon Master.

#294: KID GAMES NO. 3 (C) Kid Publish and Kid Shapes.

#296: STACATTO. Musical quiz game. Just listen or try and guess the song names as quickly as possible.

#297: AMAZE. Maze Construction Set. Draw an image boundary and then solve on screen or print out your maze.

#304: ELECTRONIC JIGSAW PUZZLE. (C) Puzzle program for Neo, Degas, and Tiny pictures. Includes 14 pictures that can be divided into 25, 64, or 100 piece puzzles.

#313: ZOLTAR (C) Arcade game similar to Galaxian but gives you the opportunity of defining your own alien ships, their flight patterns.

#314: BULLET TRAIN. (C) Arcade game: pilot your train fast enough to avoid pursuing train while watching out for dead-end tracks and box cars blocking your way. Requires 1Mb, no MEGA.

#315: ORBIT. (C) Arcade game similar to Breakout and Arkanoids. Includes wide variety of different "bricks" and screens. Define and save your own screens.

#316D: CASINO-KENO. (C) V1.0 faithfully simulates keno games in Nevada allowing the player to mark on a keno card up top 15 nubmers out of 80. Creates and saves personal account information to disk so play can continue later.

#326: GAMES NO. 17. (C) Battleship, Clowns, Fun Laws, Invaders, and World Map.

#339: EXTENSOR. Game based on light cycle sequence in the movie TRON. Color or Mono.

UTILITIES

#18: UTILITY NO.1. anaclock, breakout, deskcalc, digclock, puzzle, ram, ramacc, bicalc2, calc, calca2, noverify, dblboot, copydisk, sectedit, squeeze, unsqueeze, format, mushro, stdio, title.bas, dump, labels, print, spool, printdir, degcol, effects, neocon, omaker, smaker, slide, windows, timeda, and calc.

#25: DEGAS UTILITY. 24 fonts (archaic, gramma, stencil, graph, classical, kung fu, thinte, graphics, cursive, olde, woodcut, normal, daisyw, oldeng, ascii, system, double, rally, computer); 12 printer drivers (cgp220, ct1300, epson3, jx80c, mini193, ml84, necp3b, necp3c, ok120c, pj1080); prgs to convert Degas to Neo and Koalapad to Degas.

#30: UTILITY NO.2. Assembler; cpp22; rcv2 and dcopy; Forth-83; printdir and timedate; Labels; Pallet; Picswitch; Squnsq; Volume.

#36: DESK ACCESSORIES. TI-59 calc, calendar, digi clocks, ramdisks, free ram, screen snapshot, background colors, sector ed, games, ST Tips.

#61: PRINTER DRIVERS. First Word(ascii, bro10p, bro12pt, bro15pt, brohr15, epfx80, esfx80, epsix80, lq800, oki02, oki192, pan109, prortr, pr1215, 1stnx10), Degas (panson, cgp220, cti300, epson3, jx80c, ml193, ml84, ml93, necp3b, necp3c, oki20b, oki20c, pj1080, prowtr, sg10). Star and Gemini fonts (computer, cut, french1, olde, outline, russ1, smooth, stylish). spool33k.prg; prtspool.ttp.

#63: UTILITY NO.3. Word400 editor desk acc; floppy disk indexer; file squeezer & unsqeezer, pic conv & comp utilities (dega2colr, dega2neo, doadeg, neo2dega, tinyview, tinystuff, tiny docs, picsw6.prg), ramdisk copy prg (ultcopy), library prgs (backup.ttp, contents.prg, frmtutil.prg, fdi.tos), timedate.acc, spool33k, sector editor.

#72: UTILITY NO.4. Format & copy 400K and 800K; library & delibrar; make512 & make1meg; Fn Key Labels; muscnvrt; desk Acc(cli, fastram, fortune, prints, deskman); fileprint; proff; print hi-res on color system.

#73: UTILITY NO.5. archiver; Copy files to ramdisk; ramdisk acc; disk lib prgs; disk speed checker; encrypt; title page printer; V2 of desk acc wp; convert Megamax H files to Personal Pascal I files; calc prg.

#81: UTILITY NO.6. V3 of word400; address book prg; change drive icons to diskettes; directory lister; quick I/O formatter; fast ramdisk; Font Ed; disk dir lister; hard disk backup; fix xmodem downloads; search disk dir; send setup cmds to Epson printers; test RAM.

#94: UTILITY NO.7. Make clipboard acc; analyze dBMAN command files, print out strips of picture files, banner, marque, blast (fast display of Pix & Neo files), Mac to Atari, Picdex, tiny prints.

#95: UTILITY NO.8. formatter (allows 9/10 sectors/track, 80-82 sectors/disk side, fast or normal read; convert Dega fonts to Degas Elite; elec schematics for use with Easy Draw.

#102: UTILITY NO.9. Early version of Apple II emulator, bulk erase, disk dir. printer, disassemble, ramdisks (eternal, yard), disk format acc, ram disk loader, disk labels printing program, monitor st (debugging tool).

#107: ST RAM DISKS. A must-have disk! 25 Ramdisks, 7 Auto Loaders (fdcopier, intramdk, loadram, eternal, yard, ultcopy, fastramd, auto-ramd,mike5, ...)

#113: UTILITY NO.10. TURTLE a hard disk backup utility; PROGCALC a programmable calculator in medium rez; UNDELETER the BEST undeleter commercial or PD; FORMAT3 (for best results in FAST READ use 9 sectors a track 82 tracks as 10 sectors a track is slower); VIDCOL.PRG to convert DEGAS Elite files to ASCII simulations of Vidtex for viewing by Flash.

#117: ST DESK ACC NO. 2. Acc load, eternal, format acc, index, kalklock, mobzdil2, new word, startup1.1

#121: UTILITY NO. 11. address book, text browser, arxx, format.gem, gem font editor, font loading acc, start1.1

#126: PUB PARTNER UTILITIES. Helvetic and Normal fonts with 18 various printer drivers including Epson, Gemini, Bluechip, Okidata, T321F, SB10F, LQ800F, SMM804, C8510A.

#127: ST FONT EDITORS/LOADERS. Font Loader (High-res only), Gem Font Editor, Ver 1.11, and FED Font Editor.

#131: UTILITY NO.12. Programmer's Utility disk: uudecode, uuencode, bucket, kill, scach, make, setinit, verify, volume, 1_filepr, case, mase, ...)

#132: UTILITY NO.13. Disk library program (Diskcat), two text editors (less & vix), disk copy programs (autodisk, dcopy), startgem, access, rocp.

#144: UTILITY NO.14. Alarm clock acc, C shell, buffer setup prrg., coldboot.tos, display any res DEGAS on any res monitor, script for DEGAS slide show, harddisk auto boot, multiple file printer, mouse ed., spelling checker, rambuffr.acc

#145: UTILITY NO.15. ASL (print out multiple documents), GULAM (command line interpreter), HDSCAN (selectively backup hard disk), LABELS (disk label prg), STARTGEM (start GEM prgs from AUTO),...

#154: UTILITY NO.16. MODULA-2 Utilities: context2 Modula-2 editor; m2print ("pretty print" program);makefile utility; qcopy (source for disk copier prg); and m2proc (displays procedures).

#155: UTILITY NO.17. dcopy20; diskfix; megablit drawing prg; most (view text files); qcopy; quiklbl2 (quick disk labels); ymodem batch accessory.

#162: HARD DISK UTILITIES. Directory count (gets around 40 folder limit); C source to HD directory; supra ver 2.61 utilities; turtle HD backup ver 2.15; add multiple HD to supra.)

#166: UTILITY NO.18. disk editor, musical formatter (gercopy), multiple formats (xutility), modify seek rates for 5 1/4" drives.

#185: UTILITY NO.19. Analyze copy protection (diskmech), format disks for Magic Sac, IBM, ST normal & fast read, normal or extended format (dc format ver 2.2). ST maintenance programs (arundisc, brundisc, dspeed, memst1, priveye), ver2 of super boot.

#206: UTILITY NO.20. Set screen/text colors on bootup & save in separate desktop.inf files for each resolution (Bootup V2.05), Epson font editor; calculator and limited screen plotter in one; fast disk copier; graphic utilities: convert IFF files to compressed Spectrum; show Spectrum, Degas, and Neo pics from one slide program, convert AIM to Degas and Degas to AIM.

#220: UTILITY NO.21: YOUR 1ST UTILITY DISK. Micro-Time Alarm Clock, ST Ramdisk and Printer BUffer, Clock/Calendar, ASCII Printout, DeARChiver, Disk Manager, Disk Directory Listing Prg, and Acc Selector and Resolution setter.

#221: UTILITY NO.22. Arcshell V1.8, ARC Acc, dcformat acc, diskfree(speeds up--10 fold-- gemdos diskfree() function), foldrxxx (takes care of 40 folder limit in TOS), fselv55 (replacement for GEM file selector box), super boot 3.2 (all-in-one type boot program).

#222: DESK PAK PLUS. (Shareware) 10 desk acc in a single file: clock, calendar, phone book, calculator, appointments, free ram, note pad, copy file, delete file, desktop.

#229: EASY DRAW UTILITY DISK. Fonts: (Chicago 7-36, Courier 7-36, Calig 7-36), Easy Draw Art (18 GEM pics: assissi, box_brd, callig, clip-tmp, dailycal, disk_lbl2, hi-tech, line-brd, pd-art-1, pd-art-2, rocky, scrolbrd, swiss, vhs-lbl).

#234: UTILITY NO.23. ST Floppy Disk Manager V1.0/2.0 (dskscan1), deluxe slideshow V2.0 (dslide2), (Atari ST File System checker and

repairer, V1.1 and File System Compacter (hdoptimz), Virus killer prg (penicilin), (Super Directory data file reader (sddfr12).

#238: PUB PARTNER UTILITY NO.2. New PP fonts (cyrillic, helvetic, hudson, and saturn). Printer drivers (hpd, hpf, lq1000f, necp7d, necp7f, and ps-plus). Font editor (w/docs) for creating your own PP fonts.

#242: UTILITY NO.24. ARC Shell II, V1.91, Desk Manager V2.1 allows greater control on system bootup. Ledbetter Utilities (collection of 4 utilities), Manager prg for those that use Tempus ed with TDI Modula-2 package (m2grv2), Powerful editor of VT52 graphics (vt pro), Redirect Alt-Help key so screen is saved in Degas format instead of being sent to printer (degasave).

#253: UTILITY NO.25. V6 of item selector (fselv60), disk formatter (cssformt), TOS patch to speed up hard disk writes, backup protected disks, new intersect ramdisk, check disks for viruses, translate IBM Wordstar to First Word.

#254: UTILITY NO.26: Graphic Utilities. Various conversion prgs (Spectrum to Degas to Neo, etc), display all 3 Degas color or mono, save screen as Degas pic, Degas fonts to GDOS, Pic Switch V7, stuff/unstuff Tiny pics, display GIF format files.

#255: UTILITY NO.27: Arc & Arc Shell. Version 5.21 of arc.ttp and share program ArcShell II (Ver 1.95 and 1.96). Includes all C source code to IBM version of ARC.

#260: YOUR 2ND UTILITY DISK. Two usable utilities by J.A. Wrotniak: Address Book (acc and prg) and Zap-Card (simple data base program ideal for quotations, record collections, recipies, etc.) All docs included.

#264: XFORMER UTILITY DISK. Disk for use with the XFORMER 8-bit emulator (CN #263). Contains DS 8-bit disk w/patcvhed Atari DOS to provide double density DOS for use with XFORMER. Includes Turbo Basic.

#276: DISK CATALOGER AND LABEL PRINTER. Compiled dBMAN program. Shareware by Saraware).

#279: ATARI SLM804 LASER DISK. Diablo Emulator 1.2, GDOS Boot 1.2, LCamelot font for Laser.

#284: DESK ACCESSORIES NO. 3. Mouse doubler, mouse editor, address book, Double-click software's Clock, Formatter, Stuffer.

#320: PRINT MASTER NO. 1. Includes Borders 6,7,8, asnd 10 for PM and PM+ and a folder of PM_ART icons. Utilities allow conversion of PM to Degas and back as well as PM cataloguer program to view/print an alphabetized catalogue of any PM files.

#323 DATA BASE UTILITY DISK. CD Base (Compact Disc data base); Diskette Management Utility (catalog your disks into user-definable library.)

#324: UTILITY NO. 28: Arclt Shell V1.04 (arc a whole disk of files), WhatIS V1.2 (Identifies 27 different kinds of files); Quick Inf (load and save Desktop.INF files, edit window and icon information); ABZShell (command shell- 19 commands).

#340: DISK LABEL PROGRAMS. Over a dozen label maker programs for every type of label you might need.

#341: PRINT MASTER UTILITIES. Save PM icons in Degas format, convert Print Shop icon data file to PM icon library, several collections of borders for use with PM.

#343: UTILITY NO. 29. Dissassembler, dcopy ver 312, mystic (acc to do background formatting), mouse accelerator, rate speed of your hard disk, convert GIF files to NEOchrome, RAMBABY ramdisk & print spooler (works on Megas), headst10 (by C.F. Johnson).

#344: UTILITY NO. 30. load all of your acc from folder, acc version of dc formatter, dcfrm ver 3.01 (format disks for TOS, MS-DOS, and Magic Sac), Quick Utility for reformatting disks without losing data, Quick Menu 2.0a, Quick Find 1.0 (search for a file on hour hard disk), Quick Menu, QuickST 0.81 (text output accelerator),

QINDEX (benchmark your ST), scrnsave.prg (blank out monitor after period of inactivity; Super Boot Version 5.5,

TERMINAL PROGRAMS

#84: ST TERM DEMO DISK. demo of ST-Term Ver 2.1. FLASH batch download DOFile Generator; 2 more term prgs.

#142: TERMINAL DISK NO. 5. Kermit, QT, Zenith, Zmodem, Forem Tutorial, Flash download, GEM Terminal prg.

#167: TERMINAL DISK NO. 6. wterm, bmodem, trans100, and amulti V1.4.

#200: TELECOM NO. 3. K-I-S Terminal Ver 3., ST Talk Professional Demo, VTX Terminal prg (all arc'd).

#201: FLASH-INTERLINK UPDATES. Create Flash DO files, auto download, logon, update to V1.52. Interlink files for ANSI emulation V1.12 and TXF transfer protocols. (Requires Flash 1.51 or Interlink)

#265: VANTERM, Ver. 3.71. Sophisticated terminal program with xmodem, ymodem, internal ARC support, Vidtex graphics and Shadow support, and built-in Help files.

#300: DUAL TERM. Telecommunications program by Tony Belding. Text capture or upload, xmodem, automatic dialing and display of both VT52 and ATASCII graphics.

#303: UNITERM, VER 2.0E. Terminal emulator for the VT102/220 and Tektronix 4014 terminals. Includes xmodem and KERMIT protocols. Files ARC'd.

#325: STARNET BBS V1.24. Latest version of this Bulletin Board System includes xmodem and supports word wrap and a 'doors' system. Replaces disk #180.

LANGUAGE DISKS

#8: SAMPLE "C" PRGS NO.1. 17 C programs with source code.

#9: SAMPLE LOGO PRGS. Over 30 LOGO programs.

#22: SAMPLE BASIC PRGS. 17 BASIC prgs. command summary

#31: PASCAL & MODULA-2. PASCAL: OSS files (4/18/86), 8 demo prgs. MODULA2: GEM demo; BIOS and XBIOS functions; 11 files not yet tested on ST; VT52 emulator escapes.

#33: SAMPLE "C" PRGS NO.2. cc. digit. fixed, debug, qio, pi3con. printdir. ramfree. sound. ttool. vdisamp. windtst. and more.

#49: SAMPLE PASCAL PRGS NO.1. 46 files including 34 different PASCAL routines and docs from OSS BBS.

#53: ATARI ST FORTH-83 MODEL. Written by Laxen & Perry, includes FORTH language, editor, assembler. decompiler and Atari xbios functions.

#71: FORTHMACS WORKING DISK Ver. 1.1. (c) 1986 by Bradley Forthware. Forthmacs is one of the very best Forth systems available today.

#82: SAMPLE "C" PRGS NO.3. 3d, artwork, arxx, cc. clock. fractal. li. palette. print. qix. startup, ttool2, qio

#83: SAMPLE MODULA-2 PRGS NO.1. Shell for ARC.TTP w/source: files for line A calls; patches to V2 of Modula 2; cmd line interface; list dir; format disk; display free RAM; Huffman compression algorithmn.

#92: SAMPLE MODULA-2 PRGS NO.2. Includes ST Speech Modules and other enhancements to Modula-2.

#93: SAMPLE PASCAL PRGS NO.2. Includes latest from OSS BBS plus source for CHECKERS, a spelling checker, more...

#98: XLISP Version 1.7. Includes XLISP language, manual, XLISPE editor, C source files, XLISP-AI conference from CompuServe, plus arc_doc & arc.ttp to uncompress.

#110: MODULA-2 SAMPLE DISK NO.3. Complete set of Modula-2 source code from the BBS of The Journal of Pascal. Ada & Modula-2; Samples of building library modules using AES calls; Source to access Russ Wetmore's Clip-

board routines; String Library routines and more.

#111: PASCAL SAMPLE DISK NO.3. Complete source to ATARTREK (Star Trek for the ST); Complete source to CHECKERS; Sample routines to format a disk from the OSS BBS; Sample routines to read in a DEGAS picture file; GEMDOS calls from Pascal and more.

#123: SHAREWARE C COMPILER. By Mark A. Johnson. Includes C compiler, PD Ramdisk(s), PD command line interpreter, MicroEMACS text editor and bootup utility.

#124: ATARI ST ICON LANGUAGE, V6.3. This ICON language (a follow-on to SNOBOL4) from the Univ. of Arizona was implemented by O. Rick Fonorrow and Jerry D. Nowlin.

#133: SAMPLE C PROGRAMS NO.4. Source to code uudecode & uuencode, kermit.acc, citadel BBS & utilities, and VC_clone (spreadsheet program).

#148: GEM TUTORIALS, Columns 1-10 (windows, dialog handler, resource files, rsc tree structure, raster operations, menus, user interfaces, VDI graphics)

#149: GEM TUTORIALS, Columns 11-17 (GEM hooks, GEM events, form manager, user interfaces-2, coping with GEMDOS, interface potpourri #1, PC/ST Rsc converter)

#156: SAMPLE "C" PROGRAMS NO. 5 (source for file selector box, two make utilities, source for QT term prg, term prg that supports xmodem, ymodem, and zmodem.)

#168: GFA BASIC PROGRAMS NO.2. Source to stone deluxe, ship combat, and recalbdb V2 (record album db incl. source and runtime prg).

#169: GFA BASIC HELP DISK. Seven tutorial and tip files on using GFA BASIC by John B. Holden, graphics tutorial, plus med rez galloping horse.

#170: GFA BASIC PROGRAMS NO.3. diox V0.95 (easy user interface for simplifying construction of dialog boxes in GFA Basic, outputs GFA source file.)

#171: SAMPLE C PROGRAMS NO. 6. bmodem *(terminal emulator), sealink (transfer protocol), sed, ctag (two unix-type utilities).

#177: SAMPLE PASCAL NO. 4. Handle special keys (getkey); statistical analysis (pas stat); get BIOS parameter block (getpbp); displbay all filenames (fulldir); deal with complex numbers (complex).

#181: XLISP 2.0. Latest version (w/language called VPS5). Docs from Ver 1.7 included.

#186: GFA Basic MONOPOLY. (C) Includes GFA Basic source code.

#191: GFA BASIC NO. 4. GFA "tip" files 8-11. Paing program, 3D Tic-Tac-Toe (mono); variable cross reference, line numbering.

#223: SAMPLE C PROGRAMS NO. 7. C source for ARC.TTP, a C compiler, formatting disks at 11 sectors/track, disk formatting program, code for accessing TNY file formats, and a cross assembler for 6809 CPU-based systems.

#224: TOY PROLOG. This language operates exactly like the system described in Programming in Prolog by Clockrin & Mellish. (Note: complete docs BUT they are in German!).

#231: SAMPLE C PROGRAMS NO. 8. HACKSORC--source to the game HACK. PENICILN--contains source to an ACC to help protect against computer virus as well as the ACC itself.

#232: MODULA-2 SOURCE DISK NO. 4. GEMMODUL--very useful and large assortment of modules to ease the use of GEM functions. MATHTRAP--collection of modules for adding more math functions. THEACC--ACC that gives 2 formatting formats, numerous copying options and disk DOS type commands all in one acc.

#262D: LITTLE SMALLTALK, Ver 2.0. Object-oriented language. Includes C source code. Requires DS drive. (replaces CN#97).

#263: ST XFORMER, Ver 2.1. Atari XL/XE emulator. Atari 8-bit Basic included. Run your 8-bit programs on an ST. Requires 1Mb, (C or M).

#264: XFORMER UTILITY DISK. Disk for use

with the XFORMER 8-bit emulator. Contains DS 8-bit disk w/patched ATARI DOS to provide double density DOS for use with XFORMER. Includes TURBO BASIC, latest innovation in BASICs for XL/XE computers.

#277D: GNU C Complier (C) 1988 by Free Software Foundation Inc.

#278: ATARI ST APPLICATIONS PROGRAMMING (c) Bantam Books. Contains source and compiled programs from book by same name.

#288, #289, #290, #291: GNU C SOURCE CODE. Four disk set includes Make and Other Utilities, Assembler, Compiler, header files, DIFF source and a collection of documentation.

#298: C SOURCE DISK NO. 9. The source code to ST Xformer V1 and V2 (The Atari XE Basic emulator).

#299: PASCAL DISK NO. 5. Disk labeling program and referencing pixels on the screen.

#305, #306: MODULA2 LANGUAGE. 2-disk set contains full working implementation of Modula2 language (note: Manual not included but can be obtained from author.)

PICTURE DISKS

#20: COLOR/MONO SLIDE SHOW. Impressive photo-like pictures on the color monitor.

#40: TINY COLOR NO.1. bee, comet, commie, dire, explorer, fractal, insect, map34, racecar, rockets, sailboat, sghost, snake, spiral, supman, train, troubl, trumpwet, weather, yamato

#41: TINY COLOR NO.2. 520st, aftburnr, amigabla, atari, corvette, courgar4, countach, ferrari, ghostbus, hitchhik, horses, kingtut, klingnon, loudness, miamice, oldmovie, porsche, portrait, rio, startrek, starwars, stoneage, threed, timewars, uranus, waace.

#42: TINY COLOR NO.3. at130xe, at400, at600xl, at800, at800xl, atari, bird, bull, demon, fish, goalie, hendrix, maxell, moon, moon2, mrx, parrot, parts, planets, saturn, shuttle, shuttle2, sun, winter.

#48: TINY MONO NO.1. apple, beagle, brooke, bunny, cad3d, chess1, chrsti, cowboy, hunger, jdxmas, morgan, nature, persian, polarbar, takeon, wetlime, xmascy.

#51: TINY COLOR NO.4. alarm, at810, back, bobevans, brooke, dec, diner, drwhobox, enterpri, escher, fader, flight, floppy, galileo, halley, k9, maxell, morgan, motherst, mttam, newscast, relheat, robot, robottv, romulan, scicover, shut747, st1042, top.

#52: TINY COLOR NO.5. 3dview, aafall, aaflag, aainsect, airport2, alien, boy, bugsbull, bullseye, chaos, chrome, faucet, fonts, girl, girl2, house, jokey, map43i, scicover, startrek, uranus.

#65: TINY COLOR NO.6. altmap, at1200xl, bat, bugs, coyote, dragon3, dungeon, gibson, girl3, marie2, mariel, miamivic, mickey2, mugs, scully, skate, sunset, toyotvan, vanhalen, warriors, wizard, xevious, tinystuf/tinyview.

#75: TINY COLOR NO.7. Pics from PRINT-TECHNIK demo disk: capital, car, carddame, cardking, ct-mag, eifel, fl-pferd, girl6, girl8, gohorse, jacksig, moonastr, pferde, schadma, tina, train PLUS tiny prgs.

#96: TINY COLOR NO.8. bigcats(6-9), davenoe, donald1, eagle, eagle1, elf1, fruit, gorilla, headroom, marilyn, mars, mona-ami, pluto, ronald, tinyview/tinystuf.

#108: TINYPICS NO.1. GHOST BUSTERS (cabbie, danak, danblast, demon2, demon4, gostmbl, marshm2, sigg2y2, sigourne, staypuf2, vincel2, weenie); **RAIDERS** (leathomp, lighteye, ouch, spike, wellofsl); TNYVIEW3.PRG, TNYSTUF2.PRG.

#109: TINYPICS NO.2. EMPIRE STIKES (ata1, darth, falcoln2, falcon, hansolo, stardes2, tiefigh2, xwing, yoda); **SHUTTLE** (astronau, blastoff, ground, landing, landing2, piggybac, spaceman, spmanclr, tower, treads); TNYVIEW3.PRG, TNYSTUF2.PRG.

#118: TINYPICS NO.3. SCI-FI (alien, cybermen, darkness, davros, depspace, drwho, lo,

judith2, kingon, mornstar, pike, pinets, romulin, saavik, saturn, shipfire, shuttle1...)

#119: TINYPICS NO.4. TRANSPORT (autodesi, bicycle, boat, cnvrtabl, colorcar, corvette, cycle4, express, f14tomct, f15, f15strk, ferrari, mazda, model, ninja, por911,...)

#120: TINYPICS NO.5. CARTOONS NO.1 (birds, bugs, bully, circus, coyote, daffy, ddcar, disney, disnmick, duckdodg, flightc1, malefcnt, martian, mickey, pengy, roadrnnr, snowwhite...)

#137: TINYPICS NO.6. CARTOONS NO.2 (banana, beetle bill, bilnopus, buzzybe2, capnopus, dungeon, ewoks, flower, garfield, gumby, hagar, heman, malthar, odie, pebbles,...)

#138: TINYPICS NO.7. ANIMALS (abstrc15, bigcat10,11,16, chatter, cheval, cougar, elk, fish, fish2, flycatch, flyhorse, gorilla, horses, moth, parrot, poco, tiger2,...)

#146: TINYPICS NO.8: FAMOUS FOLK (alien, avalon, baby2001, double, face1,2,3, firestart, ladyhawk, madonna2, marie2, mariel, mean, monalisa, rio, robot, ronald, termn8er, thief, wmms_buz)

#161: TINYPICS NO. 9: VEHICLES NO.2 (monochrome: B-36, bel222b, escort1, extra1, f15strk, hele, mgtf, phalarop, refuel, romulin, shuttle1:2, sparrow, sr-71a, stealth, topgun, travel2, U-2, vaxhall)

#182: SPECTRUM PICTURE DISK. (C) spslide5 prg & 8 pics (aztec, goya, phil2, pompei, renoir, riveria, soralia, and the party).

#183: SUPERNEW DEMO. (C) New Neo picture show that plays mushc and displays a (user editable) horizontal scrolling text bar at the bottom. Note: texshow.tos needs older monitor. Slideneo, neofun, windows, and 9 pics (dragon, einhorn, midearth, monopoly, moreta, porsche, queen, tutuench).

#204: SPECTRUM SPACE NO.1. (C) 8 pics (Crab, earth, moonflag, orion, nasa1, nasa2, nasa3, patch1). Includes spslide8.prg.

#205: SPECTRUM SPACE NO.2. (C) 7 pics (Apollo 9, Apollo 10, Astro1, Earth1, Earth2, Earthris, Lem). Includes spslide8.prg.

#251: LAMBERT PICS NO.1. 16 low-res Degas Elite pics (ace, spidey, viking, space, phobe, madonna, madonna1, madonna2, cybill, dragonpr, kitty, elie3, horsecrcol, monkey5, football, cowboy.)

#266: LAMBERT PICS NO.2. Spectrum picture show (baseball, cobra, eagle, robocop, samfix1, samfox2, toucan, xformer2, spslide8.prg.

#268D: THE PLANETS. (C) Degas picture show (w/51 pictures) that provides an excellent graphical tour of the planets in our solar system.

#271: LAMBERT PICS NO.3. (C) Pictures by Rafael Nunez (Degas Elite): boat, bruce, carol, catstvns, cindy emberg, fantasy, favour, house, jacko, klingon, lin and dslide.prg).

#280: LAMBERT PICS NO.4. (C) 18 Degas Elite pics: annivers, beach, bell22b, cost, cb, cigs, cover36, daleck, deadship, dune2, dune4, dune5, dune6, girl3, hdlburg, helper, indy500, jimminy.

#292: LAMBERT PICS NO.5. (C) Spectrum: 2kittens, blackbird, chipmunk,fox, owl; Degas Elite: drag108, dragcol, drabcovl, dragon2.

#302: LAMBERT PICS NO.6 (C) 17 Degas Elite: 3dship, botart, f15, f18-3, frtank, bablec2, goali, hansolo, house, kingkool, kitty, klingnon, monument, porsche, spidey2, strohs, sun.

#312: NEO/DEGAS CONTEST WINNERS. (C) 21 award-winning pictures: tribar, dragon, midearth, city2042, cougar4, distill, dungeon1, egore2, fighter, forest, gilbert, house, millyw, nitemoon, panzer, plantfal, pyramid, sailing, shuttle, snowcat, wayne.

SOUND/MUSIC

#60: MUSIC STUDIO SONG DISK NO. 1. Some 50 songs for MUSIC STUDIO

#76D: PRINT-TECHNIK SOUND DIGITIZER DEMO **. Requires 1Mb, DS drive, color.

#78D: DIGITAL SOUND DEMO NO. 1. OXY-

GEN – Disco Version (By Hypnosis) 1Mb, DS

#79D: DIGITAL SOUND DEMO NO.2. FOREIGN AFFAIR – (by Mike Oldfield), 1Mb, DS

#99D: DIGITAL SOUND DEMO NO.3. MATT'S MOOD – (by Matt Bianco), 1Mb, DS

#114: MUSIC STUDIO SONG DISK NO.2. Over 40 SNG files for use with Music Studio that play without a MIDI keyboard/speaker system

#134: ST-REPLAY. Digitized sound demo of ST-Replay. Sound on color or mono. Picture on color only.

#196: CHRISTMAS DISK. (C) Set of Christmas melodies along with holiday pictures (Deck the Halls, Jingle Bells, Jolly Old St. Nick, Little Drummer Boy, Silent Night, We Wish You a Mery Christmas.

#197: MUSIC STUDIO SONG DISK NO.3. 65 songs (MIDI compatible) w/PD player.

#198: MUSIC STUDIO SONG DISK NO.4. 75 songs (MIDI compatible) w/PD player.

#199: MUSIC CONSTRUCTION SET SONGS NO.1. 32 songs w/PD player.

#216: MUSIC STUDIO SONG DISK NO. 5 (C) Over 70 new songs for use with Music Studio. Includes PD player so you can create your own music albums.

#217: MUSIC STUDIO SONG DISK NO. 6. (C) Another 70+ songs for use with Music Studio. Includes PD player so you can create your own music albums.

#218D: PLAYIT DEMO NO. 1. Programs on this disk allow you to input a sound file from ST Replay and output a file that can be played with either of the two player programs provided. Disk includes collection of ready to play 'SND' files. Here your ST Talk.

#236: PLAYIT DEMO NO. 2. More digitized sounds for your ST: Adam 12, Dragnet, Mr. Ed, Subether, and Synclock.

#237: MUSIC STUDIO SONGS NO. 7. 35 more songs. Disk includes 2 PD song players and program to convert 8-bit Adv. Music System (AMS) songs to Music Studio formats.

#244: MIDIPLAY DEMO. Demo of MIDIPLAY V4.25 by Electronic Music Pub. House, includes 2 songs: Mozart Gavotte and Bach G Minuet 2. Need MIDI instrument for best effect.

#267D: GHOSTBUSTERS. Digitized music demo of Ghost Busters theme song. 1MB.

#296: STACATTO. Musical quiz game. Juwst listen or try and guess the song names as quickly as possible.

#327D: SONUS Superscore Demo. Demo of this MIDI sequencing and scoring software package. 1Mb, Mono.

#342D: DIGITIZED SOUND DEMO. Richard Burton speaking the prelude to the War of the Worlds.

GRAPHICS DEMO PROGRAMS

#7: GRAPHICS DEMO NO.1. bounce, boink, cosine, cube, kal, somb, surfac, user, drop2, drop3, mvline, sa, stqix, stqux, strart, trench, doodle, cores, hex, pieram, popcorn, lowcirc, lowdemo, frac1,2,3,4, balls, clrmnd.

#12: DOODLE WITH SOURCE CODE.

#50: FUJI BOINK DEMO. Bouncing FUJI symbol, 7 SILENT SERVICE screens, demos from DUNGEON MASTER. (C)

#64: DOLL ANIMATION DEMO. Spinning dolls demo. Requires 1Mb, (C).

#66: GLOBE DEMO DISK. Spinning world globe, rich2, sphere, stpatterns, supbox. Requires 1 Mb, (C)

#67: BALL/BIRD DEMO DISK. Ball bouncing on mirror with multiple light sources & flying bird demo. (C)

#77: CAD 3D ANIMATION DEMO. Fractal Mountain.

#85: SOUND/GRAPHICS NO.2. stspeech.tos, mandlbox, disks, julia3, kleido, diskicon, OO TOPOS sample screens, music player & music files.

#90: SHINNY BUBBLES. Color demo shown at COMDEX '86.

#105: CN MOVIE. Demo of animation effects possible on your NEO and DEGAS pictures using MAKE IT MOVE. (C)

#115: ANIMATOR DISK. The Aegis Animator Player with four ARC'ed routines to play. A public domain animator of sorts to have fun with.

#128D: STEELYBOINK!. By Tom Hudson, math by Mark Kinball. (C)

#129: SPHERES! DEMO. Steve Belczyk. (C)

#151D: SPACE PROBE. A Cybermate animation (DS & 1 Mb)

#152: PD3CTL. Motion control language for use with CAD 3D, Ver. 2.0.

#172: JUGGLER DEMO. Graphics demo of juggler w/3 balls (from AMIGA).

#173D: CYBERSCAPE. Animated graphics demo from ANTIC. See disk change into spaceship, fly into and explore inside of Atari ST. 1MB and DS drive. (C)

#174D: STAR TREK ANIMATION. Several animated pictures featuring the starship Enterprise, constructed using CAD 3D.

#193D: CYBER FAMILY DEMO NO. 2. Sphere, Backflip, Bounce, and Anticado (C).

#202D: CYBER DEMOS & UTILITIES. 4 animations: chasers, elmsk31c, scout, and texture (C, DS, 1Mb).

#203: SPECTRUM BALL DEMO. 5 metal balls, hanging from rack, with 1st & last alternatvely swinging in and out. (C)

#214: SPECTRUM 512 MOVIE ANIMATION. Imitation of Amiga demo that shows 4 monitor screens at the same time each with a different animated display.

#227: CASTING D'ENTERPRISES. An impressive demo of the animation and graphics capabilities of the ST. This French "film" runs for about 7.5 minutes.

#235: CYBER DEMO DISK (4 animations: CAMFILM, PSLOGO, RAISINS, and SAUCERB, with animate3. prg).

#259: GRAPHIC DEMO DISK. Many Boink, Star Field, Degas Elite pics (500xjrev, anigakil, bill, hardrock, hitguide, hradiosc, armstron, qwert, surfcity), showpic2.prg.

#285D: STAR TREK (AVS). Original opening to Star Trek and a well-done animation sequence. Note: AVS disks show animation and plays sounds simultaneously. (C)

#286D: CALIFORNIA RAISINS (AVS) Famous singing raisins. (C)

#287D: MIAMI VICE (AVS). Theme song played by animated band. (C)

#308D: RUNAWAY CAT (AVS). Watch tractor form and then run off into the sunset. (The above four disks include PD player so you do not need START's AVS to run animation with sound at same time.)

#337: GRAPHICS DEMOS. AVS demos (Bugs Bunny and Space Battle), Cyber animation of Honda engiine. (Color)

COMMERCIAL DEMOS

#76D: PRINT-TECHNIK SOUND DIGITIZER DEMO. (C) Requires 1Mb, DS drive.

#104D: ALADDIN ST DEMO DISK. (C) Demo of new Visual Interactive Media by Disk Publicatons, Inc. Incredible graphics on your ST!

#106: SMOOTH TALKER DEMO. (C) Demo of 5 talking educational programs from First Byte: Speller Bee, Kidtalk, Mathtalk, First Shapes, Speech Sampler.

#130: SAMPLE GFA BASIC PROGRAMS #1. GFA Run only version, terminal prg., sprite ed., torpedo game, fractals, archshell, format2, drawing prg., graphics demos:fx, display, gfa_cube.

#157: MULTI-LINGUAL WORD PROCESSOR DEMO. By Drew Haninger. Includes Russian and Arabic fonts with demo font editor. Complete DOC file included.

#219D: DBMAN DEMO DISK. Demo of Ver 4.0 of dBMAN. Data bases limited to a max of 20 records.

#228: SUPERCHARGED EASY_DRAW

SLIDE DEMO. Self-running demo of the capabilities provided by Migraph's new SUpercharged Easy Draw. (M)

#252: IRATA VERLAG DEMO DISK (mono, 1MB). Label Professional Program, SPAT Program (Desktop Publishing), DiskManager (Keep your list of programs of all sorts of extenders.)

#256: OIDS DEMO (C) Demo runs through quick demo of OIDS thenlets you play until you crash rocket. Includes 6 galaxies for those who already have OIDS.

#301D: LDW POWER DEMO. Demo of LDW spreadsheet includes folder of VIP/LOTUS/LDW templates. DS disk.

#307D: CALAMUS DEMO. (M) Demo version of newest DTP program from Europe. Includes sample documents (some ARC'd). 1Mb, DS.

#319: GENERATION GAP DEMO. (C or M) Demo version (10 record limit) of Generation Gap Genealogy program by Flying Pigs Software.

#327D: SONUS SUPERSCORE DEMO. Demo of this MIDI sequencing and scoring software package. 1Mb, mono.

APPLICATIONS

#14: NEOCHROME. Program, docs, pictures.

#59: VIP TEMPLATES. 20 VIP templates, some simple, some quite sophistcated: acpay, acrec, blackbk, ckbkbal, dispurse, fedtax85, ledger, lotusinv, magee, menu, mistox, payroll, spi, spi2, tryme, z, zlife, zrelease, starter

#68: CAD 3D PICTURES. A dozen or so picture files for use with Tom Hudson's CAD 3D Program

#103: SKYMAP. (mono) 1,560 of the brightest stars. Display map of stars, find a particular star, or identify a particular star.

#163: EDITOR DISK. Includes PROEDIT by Jerry Cole: general purpose programming editor with outline feature; and ConTEXT by Don Milne, designed for use with Modula-2, but a good editor with any language.

#165: LIBRARY PROGRAMS. Menu.prg, diskcat V1.3, turtle companion.

#192: MICROEMACS, VER 3.9. Popular text editor, includes MicroSPELL spelling checker.

#215D: A.I.M. Ver 2.3 (DS) Atari Image Management System (C or M). Image manipulation program from Germany (can read in NEO or DEGAS pics).

#233: SHEET. Shareware spreadsheet program by Mr. Chor-ming Lung.Includes complete docs.

#241: VDOS (Virtual Disk Operating System). Shareware graphic interface from Marathon Press for easier access to frequently used programs. Includes many command options frequently contained within commandline interfaces but is much easier to use.

#243: BOWLMAN, V1.22. Shareware program by George Terpening, Bowling Manager, helps you keep track of bowling statistics for yourself, your team, and your league. Files ARC'd.

#258: PRIME BETA/DEMO VER 1.3 (1 Mb). Numbers... unlock the secrets of your life. advise based on numerology: personal numbers, alpha-numeric strengths and weaknesses, personal year, personal month, personal day, personal eras, personal challenges, predictions, mates and partners, choosing names and addresses.

#270: QUIZ PLUS. Computer Assisted instruction system let your ST teach you. Sample lessons provided instruction (w/pictures). (C) NO MEGA.

#276: DISK CATALOGER AND LABEL PRINTER. (Shareware dBMAN program by Saraware).

#281: MANUAL MAKER, V2.25. Use GDOS and GDOS fonts to produce attractive manuals (includes on-screen power and menu-driven intervace)

#295: STICKER. (C or M) German disk labeling program with graphic images.

#309D, #310D, #311D: TEX – Text Document Processor. (M) 3-disk set contains TEX

document processing languages. Drivers provided for Epson printer.

#318: ASSISTANT CHEF. (C) Just the recipe program you've been looking for. Holds up to 300 recipes (42 included). Sort by recipe number, name, food group, food type, rating. Add to and edit recipes. View and/or print recipes.

#321: ST WRITER ELITE, V3.0. Includes English, Spanish and German versions and complete documentation.

#322 SUB_CAL. Calculator with some extras including polynomial equations.

#328D: GENIE ST ROUNDTABLE 1. Database of ST files available on GENIE, listed by library and topic. Includes a variety of search options to help you find the file you are looking for.

#329D: GENIE ST ROUNDTABLE 2. Database of ST files available on GENIE, listed by file number. Includes a variety of search options to help you find the file you are looking for.

#330D to #335D. SEEKER BIBLE. This set of **six disks** includes all 66 books of the Bible (4.5 megabytes of data) and software to help you search out ANY word or phrase you choose.

#336: BSTAT STATISTICAL GRAPHICS PROGRAM. Extraordinary complete statistical package with virtually any statistical program you might need.

CLIP ART

(Note: the color pictures above can often also be used as clip art in programs such as Publisher ST or Publishing Partner.)

#147: COLOR CLIP ART NO.1 (avlabels, dikclip1, disnyclp. dav1:2:3:4:5, fantasy, fun, history, kids, macfctry, macpaint, maninspc, map1:2, men1:2, paint2:4:5:6:7:8, picture1:2, sport1:2, women1:2)

#158: MONO CLIP ART NO.1 (animals, flags1:2, symbols1:2:3, astrology, custom 1:2:3:4, christian, military1:2, transla1:2:3:4:5)

#159: MONO CLIP ART NO.2 (10 screens of uncompressed holiday and 'fun' clip art.)

#160: MONO CLIP ART NO.3 (bluejay, canadago, carstruk, cheata, chipmunk, clipart1:3:4:5:6:9:B:C, grabber, jaguar, sports1:2:3:5)

#239: CLIP ART NO. 5. Holidays and Headers, 28 screens full of excellent clip art. Disk includes Picsw7 and dslide (C or M).

#245: CLIP ART NO. 6. Mac Art 1. Mac Art Library. 27 screens (#1-27) of Mac clip art. Includes tinyview, tinystuf, dslide.

#246: CLIP ART NO. 7. Mac Art 2. 24 screens (#28-51) of Mac clip art. Picswitch07, tinyview, tinystuf. dslide.

#247: CLIP ART NO. 8. Sports. 24 screens of Mac clip art for sporting events. Picswitch7, tinyview, tinystuf, dslide, snapshot.

#248: CLIP ART NO. 9. Whimsey. 21 screens of whimsical clip art. Picswitch7, tinyview, tinystuf, dslide, snapshot.

#249: CLIP ART NO. 10. Food 1. 27 screens of food clip art. Tinyview.

#250: CLIP ART NO. 11. Food 2. 22 more screens of food clip art.Tinyview, tinystuf, dslide, snapshot.

CPM EMULATOR DISKS

#86: CP/M-80 EMULATOR TOS DISK. A complete CP/M-80 Version 2.2 compatible system environment. Disk includes TOS, PRG and DOC files and ARC file containing CPM programs on #87.

#87: CP/M-80 DISK #1. Disk in CP/M-80 format: two dozen CPM utilities released on Atari's CP/M disk.

CN PD BOXES

The boxes listed below include many disks from the CN library. The games in the two game boxes are some of the better games from the total selection of ST games. Other boxes, however, such as the Clip Art Box or the C Language Box, are just convenient collections of the corresponding disks in the main library. All CN boxes include 10 disks and are $35 each.

GAME BOX #1 (Color). 30+ games: Aggravation, Azarian, Backgammon, Barn Yard, Black Jack, Boggle, Box the Dragon, Checkers, Daleks, Darts, Escape, Hac-Man, Hero!, Jigsaw Puzzle, Jumpster, Kid Music, Kid Notes, Kid Sketch, Kids ABC, Mastermind, Monopoly, Mr. Potato, Poker, Roulette, Scour Four, Sensori, Shanghai Demo, Slots, Stone Deluxe, Triple Yahtzee, Twixt, Wheel of Fortune.

GAME BOX #2 (Monochrome). 30+ games: Adventure, Adventure Writing System, Anduril, Ballerburg, Baseball, Bog, Breakout, Core Wars, Cribbage, Daleks, Diamond Miner, Draw Poker, Eamon Adventure Games, Eliminator, Escape, Hero, Invaders, Krabat & Krabat2, Mazemaker, Mega Maze, Megaroids, Monopool, Ogre, Puzzlepuzzle, Reversi, Runner, Shanghai, Snafu Principle, Space War, Squixx, Stocks and Bonds, Trucker. [Includes CN #54, 80, 135, 153, 212, 213, 230, 240, 257, 269]

CLIP ART BOX #1. 240 screens of clip art for your desktop publishing needs plus a variety of clip-art and picture utilities. [Includes CN #158, 159, 160, 239, 245, 246, 247, 248, 249, 250]

NEO/DEGAS PICTURE BOX #1. 185+ examples of super Atari Art! Includes Neochrome painting program. [Includes CN #14, 183, 40, 41, 42, 51, 52, 65, 75, 98]

MUSIC BOX #1. Over 400 songs for use with Music Studio and 30+ songs for use with Music Construction Set. PD players included. [Includes CN #60, 114, 196, 197, 198, 199, 216, 216, 237, 244]

C LANGUAGE BOX #1. Two "C" compilers plus 8 disks filled with sample "C" programs to help you master this language on the ST. [Includes CN #123, 277D, 33, 82, 133, 156, 171, 223, 231, 298]

ST LANGUAGE BOX #1. A variety of languages for your ST: Forth-83, Forthmacs V1.1, C Compiler, ICON Language, XLISP V2, Toy Prolog, Little Smalltalk, Modula2 and an Editor disk. [Includes CN #53, 71, 123, 124, 163, 181, 224, 262, 305, 306.]

Ordering Information

Disk numbers with as 'D', e.g. 309D, indicate a double-sided disk. All disks are guaranteed. If you ever have a problem with a CN disk, just return it and we will gladly replace it. (Note, however, that these are public domain programs and if the program doesn't work just the way you expect, there is little we can do to fix that!)

All disks are $4.00 each. Quantity discounts are available. If you order 10 or more disks, the price is $3.80 each; 20 or more, $3.60 each; 30 or more, $3.40 each; 40 or more, $3.20 each; and 50 or more disks, $3.00 each.

Add $1 per every six disks or fraction thereof for shipping and handling. Orders outside of the US, add $2 per every 6 disks for shipping and handling. Foreign orders must be paid in US dollars drawn on a US bank.

Order disks from:
CN Library, 122 N. Johnson Rd, Sterling, VA 22170
(703) 450-4761.
Sorry, we cannot accept charge (MC, VISA, etc.) orders.

SUMMER SALE
Any 10 for $35
+$2 S&H
Orders must be received before Sept. 1.

PASCAL/MODULA2 BOX #1. Sample programs in Pascal and Modula-2 to help you learn these languages on your ST. [Pascal: CN #31, 49, 93, 111, 177, 299; Modula2: CN #31, 83, 92, 110, 232]

SHOW-OFF BOX #1. Balls & Boinks, Oxygen, Shinny Bubbles, Spehres, CN Movie, Steely Boink, ST-Replay, Space Probe, Cyberscape, Play It!, California Raisins, Miami Vice. NOTE: REQUIRES DOUBLE-SIDED DRIVE. [Includes #78D, 90, 105, 128, 129, 134. 151, 173, 218, 286, 287.]

PC Library

The disks listed below are in IBM format for use with pc-ditto on the ST or directly with any IBM or compatible PCs using 3.5'' drives. Note: alldisks require a double-sided drive. These disks each have up to 360K on them. (Only the first 40 tracks of a double-sided disk are used to conform with standard IBM format.) The disks marked with an asterisk (*) are formatted for 720K, that is, they are true double density disks.

PC-01 PROCOMM, V2.3: Terminal Emulator Program (Shareware) also MINIHOST, host BBS system.

PC-02 PC-STOCK, CARDEX: PC-Stock: general purpose stock trend analysis program. CARDEX: a rotary index card file equivalent to a Rolodex.

PC-03 QEDIT: QEDIT: the Quick Editor A fast text editor, uses all available memory, allows split screens and multiple file editing.

PC-04 PC-OUTLINE, V1.05: An outlining and planning program, allows you to randomly enter any kind of info and then organize it into hierarchial structure.

PC-05 AS EASY AS: Powerful spreadsheet (1,024 rows by 256 cols) with a large set of menu command features.

PC-06 PC-DBMS, FLOW CHART: PC-DBMS: v1.2, data base programs. Flow Chart Utility and Mortgage Calculator program.

PC-07 EASYBASE, BANKBOOK: EASY BASE: Data base for new users with medium size applications. HOME BANK BOOK: keep track of your funds in a bank-book style system.

PC-08 TIMESAVER & PFM: Timesave: calendar/appointment book. PFM: Personal File Management System to help you deal with DOS

PC-09 POKER & STAR TREK: DRAW POKER, V1.0: simulates Nevada video draw poker machine. MS-TREK 1.0, Star Trek Adventure Game.

PC-10 ZIP: The Ultimate Utility Complete file manipulation utility. Includes ARC and de-ARC and terminal program with XMODEM transfer.

PC-11 A.D.A. PROLOG: Version 1.90 Complete Prolog language with documentation. .

PC-12 FREE WORD: Version 1.0 PC Word processor with docs, demo, and reference.

PC-13 VISIBLE PASCAL: Pascal learning system, language, editor, docs. Allows simultaneous view of output and source code to help learners debug their programs.

PC-14 KIDGAMES: Alphabet, Animals, Clock Game, Hangman and Mosaic.

PC-15* FAMILY HISTORY SYSTEM. A family tracking system. Disk includes original Basic source plus compiled version, full docs, and sample files. 720K.

PC-16* PC-FILE+: Jim Button's popular database filing program. Includes Utility Disk with 250pp documentation. 720K.

PC-17 PC TUTORIAL: An educational package that covers the basics of a 1st course in computer usage and the IBM PC operating system.

PC-18 PC DOS HELP: An online Help facility for DOS commands.

PC-19* PC-WRITE: Powerful, easy-to-use word processor. Program, docs, printer drivers. 720K.

New CN Library Disks for July/August

As promised, we have listed the complete CN library in this issue. Remember, all CN disks are guaranteed. In some cases, however, a disk may not be compatible with your system (not enough memory, different TOS, Mega vs 1040, color vs mono, etc.). Whatever the problem, if you are not satisfied, simply return the disk and we will replace it with the disk of your choice. Similarly, if you should receive a defective disk, let us know and we will replace it.

The first new disk this month is courtesy of John E. Berthold. John's original Spectrum 512 pictures are some of the more unique and entertaining that I have seen. The next two new disks are courtesy of Doug Johnson. Doug, soon to be starting his junior year in high school, has been programming since age 6! His MOTerm Elite is an outstanding telecommunications package. If you would like to submit your PD or Shareware programs to the CN library, send them to CN Library, 122 N. Johnson Rd., Sterling, VA 22170.

#345: Spectrum 512 Pictures. 8 exciting new Spectrum pics from John Berthold: Anasaz1, blokblos, duckneuv, explore, moonfest, outback, philtoo, scape3c and spslide.prg.

#346: Spectrum 512 Utilities. From Doug Johnson: spcprint (print Spectrum pictures directly to printer, color or black–and–white), spcconvr (convert Spectrum 512 pictures to Degas Pl1), spcview (GFA Basic program to view Spectrum 512 pictures). Disk includes three pictures: laserbee, madonna, and redarrow.

#347: MOTerm Elite 1.41. The Ultimate Telecom Package for the ST, by Doug Johnson. Features many things that no other terminal packages contain, including medium or high resolution graphics which can be exchanged over the modem automatically, sound that can be transferred online, a new file transfer protocol callded Dmodem that is faster and more accurate than Xmodem, built in text editor for editing of information captured off of a modem or other files, an automatic dialer that will dial phone numbers while you do something else within the program, the fastest Xmdoem file transfer routines yet available for the ST, and much more. Requires 1 Mb.

#348: Game Disk #18. Companion 1, color arcade action as you fly your ROCM, and Trivia Quiz, test your knowledge against the computer or other players. (Color)

#349: XFORMER Programs #1. Includes Analog 35, 38, 41, 44. These are the Analog 8–bit disks converted to ST format for use with Xformer. Xformer is the Atari 8–bit emulator. (CN #263: ST XFORMER now has version 2.4)

#350: XFORMER Programs #2. Includes Analog 47, 50, and 55. More Analog 8–bit disks converted to ST format for use withXformer, the Atari 8–bit emulator.

#351: Publishing Partner Utilities #3. 13 fonts for use with Publishing Partner: Devoll, Helvetic, Spokane, Thames, Blockup, Fifties, Keyboard, Marsone, Oddballs, Pntbrush, Psplus1, Speak, and Stencil.

#352: Graphic Utilities. Metaview Prg/Acc by Ric Clayton, allows you to view GEM Metafiles in standard GEM windows. Image Editor DA V0.65 Demo by Mike Bergman (mono only), a tool to edit monochrome .IMG files for desktop publishing and related activities. Deluxe Slideshow V2.0, by John Brochu, com bines all the currently popular ST graphics formats (Neochrome, Degas, Degas compressed, Tiny, and Spectrum) into one compact, but flexible slide show program. IMG Show, by Migraph, allows viewing of monochrome .IMG files on any resolution ST (low, med, hi, & Viking 1). Art Gallery, by Charles F. Johnson, shows Degas, Degas Elite compressed, Neo and Tny compressed pictures. ST Banner, by Steve Whitney, print large banners out of small letters on your printers. Also Degasnap.prg and Snapshot.acc.

#353: Print Master Icons No. 3. Collect 1,2,3,4. A collection of 479 icons for use with Print Master.

#354: Print Master Icons No. 4. Collect 5,6,7. A collection of 470 more icons for use with Print Master.

#355: GEM Picture Files No. 1. 41 GEM Metafiles: autos, bank, bigtruck, borders2, bus, caboose, cameras, capital, clip–GEM, coal car, computer, crane, cycles, doctor, faces 2, factory, forklift, gaspump1, gears, helicopt, house light, manpower, map, micscope, money, observat, oil, pensetc, phone, powrplnt, safety, scarcrow, student, tables, telscope, toolpage, tools, tractor, tvs, windmill.

#356: Bolo. The game Bolo is from Germany and runs in color or monochrome. The files on this disk MUST be in drive A. Bolo is a cross between Breakout and Arkanoid. This is a GREAT arcade type game.

New disks for pc ditto users:

#PC20: Procomm Plus – Test Drive. A demo version of PROCOMM PLUS, one of the more popular telecommunications programs, all of the features work.

#PC21: File Compressor Collection. Contains every popular file compression and extraction packages. Here are the latest versions all on one disk. The file extensions covered by these routines are: ARC, PAK, PKA, ZIP, ZOO and the new compression method popular in Japan LARC.

This space is made available to WAACE member clubs for publicizing activities. Material for this column must be in the hands of the Clubs Editor by the 3rd of each month. Send copy to Ed Seward, PO Box 2699, Merrifield, VA 22116. Material can also be uploaded to the ARMUDIC BBS.

NOVATARI: Northern Virginia Atari Users' Group

President	Bonnie Little	703-444-2419
ST VP	Ed Seward	703-573-3044
8bit VP	Nina Kraucunas	703-250-3572
Secretary	Edmund Bedsworth	703-591-5958
Treasurer	Gary Purinton	703-264-8826
ST Librarian	Frank Chan	703-960-0474
8-bit Librarian	Roy Brooks	703-750-0146
8-bit mail	Jeff King	
ARMUDIC Sysop	Scott Ogden	703-450-3992

New Members: Dues are $24/year/family which includes a subscription to *Current Notes* and access to more activities. Join at the main meeting or at a chapter meeting or by sending $24, payable to NOVATARI, to NOVATARI, PO Box 4076, Merrifield, VA 22116.

Novatari Main meeting: second Sunday of the month at the Washington Gas Light Building, 6801 Industrial Rd, Springfield, VA. Take 495 to east on Braddock Rd.(620) to south on Backlick Rd (617). Left on Industrial Rd. Washington Gas Light is the second building on the right. 5:30 Programmers SIG; 6:15 announcements, open forum, door prizes; 6:45 VAST and 8BIT SIG meetings.

Chapter Meetings: Mt. Vernon/Hybla Valley. 1st Thursday, 7:30 Contact Ron Peters at 780-0963. Sterling, Sterling Library, 7:30-9:30, Wed after the Second Sunday Contact Richard Gunter at 471-7765. Vienna, 4th Sunday, Contact Ed Seward 573-3044 for time and place.

A.U.R.A.: Atari Users Regional Association

President	Niel Johnson	301-540-1794
8-bit VP	Steve Preston	301-972-9632
16-bit VP	Ira Horowitz	301-421-9507
Treasurer	Bob Brock	301-268-2554
Membership	Bill Brown	301-279-7537
8bit Librarian	Wayne Heiden	301-330-0130
16bit Librarian	Joe Russek	301-946-7593

Meetings: Third Thursday of each month in the Multipurpose Room at Grace Episcopal School. The school is on the east side of Conecticut Avenue, 1/4 mi.north of the Connecticut Avenue (North) Exit from I495. Library and swap table sales begin at 7:15, the meeting begins at 7:30. We have separate XL and ST demonstrations. There will be 8-bit and 16-bit door prizes.

Correspondence. All correspondence, including membership renewals, changes of address, etc. should be sent to: AURA, P. O. Box 7761, Silver Spring, MD 20910.

New Members. Dues are $25/year and include subscription to *Current Notes*. Send name, address, phone number, and check to above address.

F.A.C.E.: Frederick Atari Computer Enthusiasts

President	Chris Rietman	301-791-9170
Vice President	Mike Kerwin	301-845-4477
Treasurer	Buddy Smallwood	717-485-4714

Meetings: 4th Tuesday, 7 - 9:30 pm, Walkersville HS, MD Route 194, 1 mile north of MD Route 26 (Liberty Road). July and August meetings will be held at St Paul's Lutheran Church, 14 W. Pennsylvania Ave, Walkersville, MD.

New Members: Dues are $25/year/family and include a subscription to *Current Notes*. Join at meeting or send check, payable to FACE, to Buddy Smallwood, PO Box 2026, Frederick, MD 21701.

G.R.A.S.P.: Greater Richmond Atari Support Program

President	Mickey Angell	804-744-3307
Vice President	Terry Barker	804-379-8175
Secretary	Tom Marvin	804-233-6155

Meetings: 2nd and 4th Thursday, at La Prade Library, 2730 Hicks Rd.

Dues: $20 per year (no *Current Notes*).

WACUG: Woodbridge Atari Computer Users' Group

President	Lou Praino	703-221-8193
VP	Ron Dunn	703-494-4260
8bit VP	Darrell Stiles	703-494-9819
ST VP	Bill Parker	703-680-3941
Treasurer	David Waalkes	703-490-1225
Librarian	Frank Bassett	703-670-8780

Meetings: 7-9PM, Community Room. Potomac Branch. Prince William County Library, Opitz Blvd., Woodbridge, VA. Entering Woodbridge from either North or South on Route 1, proceed to the intersection of Route 1 and Opitz Blvd. (opposite Woodbridge Lincoln-Mercury). Turn West on Opitz and take first left turn into the library's parking lot. The Community Room is located to your left immediately upon entering the main building.

New Members: Initial membership fee is $10 plus $1 monthly dues. Renewals are $20 per year, payable as of 1 January. Membership includes a subscription to *Current Notes*. Join at meeting or send check, payable to WACUG, to David Waalkes, 1302 Oregon Ave. Woodbridge, VA 22191.

M.A.C.C.: Maryland Atari Computer Club

President	Jim Hill	301-461-7556
Vice President	Dan Honick	301-356-6453
Treasurer	John Cromwell	301-356-6453
Secretary	Bob Brent	301-254-3896
8bit Librarian	Jim Hill (acting)	
ST Librarian	Tim Caldwell	301-687-1413
Newsletter Ed	Charles Smeton	301-465-8628

Meetings: last Tuesday, 6:30 pm, Pikesville Library, 1 mi. east on Reisterstown Rd from Exit 20 off the Baltimore Beltway.

New Members: Club Dues are $22/year and include a subscription to *Current Notes*. Join at meeting or send check, payable to MACC, to John Cromwell Jr, 715 Woodsdale Rd, Baltimore MD. 21228.

S.M.A.U.G.: Southern Maryland Atari Users' Group

Acting Treasurer	Samuel Schrinar	301-843-7916
Newsletter Ed	Leroy Olson	301-743-2200
ST Librarian	Steve Hunt	301-868-0418
8 bit Librarian	Sherwood Conner	301-292-5752

Meetings: 2nd Thursday, 7:30 pm, Meridan Nursing Home in La Plata, MD. Travel south on Route 301 to first traffic light in La Plata. Turn righton Route 225 (going west) go approx 100 yards and turn left at the Meridan Nursing Home Sign.

New Members: Membership dues are $27 and include a subscription to *Current Notes*. Join at the meeting or send check, payable to SMAUG, to Sam Schrinar, 2032 Alehouse Court, Waldorf, MD 20601.

M.A.S.T.: Meade Atari ST Users Group

President	Bob Johnson	301-674-8762
Vice Pres	Keith Drewke	301-551-2662
Secretary	John Corkran	301-255-1674
PD Librarian	Harold Beck III	301-672-1793
Tangent Line BBS	Thomas Hutchinson	301-850-5045

Meetings - Third Tuesday of each month at the Province Branch Library at the intersection of Ridge Rd/Rochenbach Rd and MD 175 in Odenton at the rear of the Severn Square shopping center. The meetings run from 6:30 to 9:00 pm.. Call Bob Johnson any evening for further information.

Mailing Address: All correspondence. including membership renewals, changes of address, etc. should be sent to: MAST. c/o Bob Johnson, 1616B Forrest Ave, Ft. Meade, MD 20755.

New Members. Dues are $27/year and include subscription to *Current Notes* and unlimited DL and message activity on the Tangent Line BBS. Send name, address, phone number. and check to above address or join at any meeting.

WAACE GOINGS ON

Waace AtariFest 89
John Barnes, WAACE Chairman

AtariFest '89 preparations are on track. To keep up to date check in on the AtariFest SIG on ARMUDIC. This special area contains messages that are suitable for uploading to other BBS's and for inserting into news media that you have access to. Please try to spread the gospel of AtariFest '89. The job of sending out letters to over 300 potential vendors has been a tough one for Johnna Ogden. Gary Purinton and Bob Johnson are preparing display advertising for the second phase of our advertising campaign in the Atari Press.

Atari Corporation has seen some personnel changes with the result that Georgia Weatherhead, our Atari Corporation liaison person has experienced a lot of frustration in getting Atari to acknowledge our existence.

Steve Rudolph of AURA has agreed to head the team that will be putting together the souvenir program for the 'Fest. We are looking at a 64 page booklet that will be chock full of ads and special Fest information.

The People's Fest is the event that it is because our volunteers include people that you couldn't buy at any price. We know that this assembly of talent will create a happening that will be a real experience for everyone.

Check ARMUDIC for the WAACE meeting place and date for July. In August and September we will be meeting at Fairfax High School to

AURA
Neil A. Johnson, AURA President

Greetings from AURA once again! The springtime has not only brought warm weather but also new meeting themes to our club. May's Digitized Atari was quite interesting. Thanks go out to John Barnes and Bob Langsdale for showing off the St's and 130XE's power for creating super digitized images with their video cameras. June will be our semi-annual Games theme, and we hope to see our members demonstrate their favorites. In July, a representative from Cal Com, Inc. is planning to speak and demonstrate some of the latest stuff out for the Atari systems. In August we are planning on a swap meet. We cordially invite any and all interested Atari users, especially WAACE members, to join us for a few hours of swapping, selling library disks (bring your club's library), and flea market bargain hunting at this event. In addition to meeting a new bunch of people, this meeting will also be an opportunity to find out a little about October's Atarifest, as some of this event's planners will likely be on hand as well.

In other news, AURA has just finished its first newsletter in a long while, the AURA Beacon. It features software/hardware reviews and other "gems of knowledge" from some talented AURA members. whose literary works just don't fit into Current Notes. If your club would like a copy, please write me and I'll send you one.

New meeting themes, a Swap Meet, WAACE's Atarifest, and AURA's infamous door prizes. See you next month!

WAACE Calender

JULY
9	NOVATARI Main Meeting
12	Sterling Chapter of NOVATARI
18	MAST Meeting
20	AURA Meeting

AUGUST
2	NOVATARI Board Meeting
13	NOVATARI Main Meeting
16	Sterling Chapter of NOVATARI
17	AURA SWAPFEST Meeting
22	MAST Meeting
30	NOVATARI Board Meeting

SEPTEMBER
10	NOVATARI Main Meeting
13	Sterling Chapter of NOVATARI
21	AURA Meeting
26	MAST Meeting

ATARIFEST October 7th & 8th

ARMUDIC BBS
703–450–3910
5 phone lines

300/1200/2400 Baud, 8 and 16 bit
Access to the BBS requires a fee in addition to the dues. This fee is $5/year for NOVATARI members and $7.50 for members of other user groups. BBS access fees are to be made payable to "NOVATARI" and sent to: NOVATARI, PO Box 4076, Merrifield, VA 22116.

Members of registered clubs may subscribe to Current Notes at a discount rate ($20/year or $38/2 years). To add your club to the list, send an initial subscription list of 10% of the members or 6 members whichever is less, to CN Registered Clubs, 122 N. Johnson Rd., Sterling, VA 22170. For more information, call Joyce (703) 450-4761. NOTE: Canadian Atari clubs are also eligible. Canadian club subscriptions are $28/year or $54/2 years)

ALABAMA
Huntsville AUG, Levin Soule, 3911 W. Crestview, Huntsville 35816 (205) 534-1815.

ARIZONA
Tucson Atari Central, Sam Furrow, 2116 E. 1st St, Tucson, 85719 (603) 323-3410

ARKANSAS
Little Rock Atari Addicts, Keith Steensma, 28 John Hancock Cir, Jacksonville, 72076 (501) 985-2131.

CALIFORNIA
Atari Bay Area Computer Users Society, Bill Zinn, PO Box 22212, San Francisco 94122 (415) 753-8483.

San Diego ACE, Mark Lawless, PO Box 203076, San Diego 92120 (619) 581-2477.

Santa Maria/Lompac ACE, Mike Jacobson 608 N. Pierce, Santa Maria 93454 (805) 925-9390.

CONNECTICUT
Atari User Group of Greater Hartford, 503-B East Center St. Manchester 06040 (203) 623-8833.

ST Atari Road Runners, Glen Werner, 1160 South Curtis St. Wallingford 06492.

ST Atari Users Society, Brian Rufini, 176 Burnside Ave. E. Hartford 06180 (203) 289-7903.

FLORIDA
Atari Boosters League East, Hadley Nelson, P.O. Box 1172, Winter Park 32790.

ILLINOIS
Central Illinois Atari Users Group, Robert Handley, 1920 East Croxton Ave, Bloomington 61701-5702 (309) 828-4661.

Lake County ACE, Dwight Johnson, PO Box 8788, Waukegan 60079 (312) 623-9567.

ST Information Group, Joe Lambert, P.O. Box 1242, Peoria, 61654 (309) 346-4326.

INDIANA
Atari Lovers of Illiana Equaled by None, Jeff Coe, 706 Center St., Crown Point, 46307 (219) 663-5117.

Eli Lilly Corp Center ST Users Group, Karl Werner, Eli Lilly Corp Cntr, Indianapolis 46285 (317) 276-3020.

IOWA
Midwest Atari Group-Iowa Chapter, Gordie Meyer, PO Box 1982, Ames IA 50010 (515) 232-1252.

KANSAS
Ft. Leavenworth Atari Group, PO Box 3233, Ft Leavenworth 66027.

Lawrence Atari Computer Club, Robert Drake, PO Box 1415, Lawrence, 66044 (913) 842-5961.

Wichita ACE, Marilyn Merica, 501 Trotter, Maize 67101 (316) 722-1078.

KENTUCKY
Atari Exchange of Louisville, Don Garr, PO Box 34183, Louisville 40232.

LOUISIANA
Only ST Users' Group, William Sammons, 2144 Emerson St, Gretna 70056.

MARYLAND
Atari Users Regional Assoc, Bill Brown, PO Box 7761, Silver Spring 20910 (301) 279-7537.

Frederick Atari Computer Enthusiasts, Buddy Smallwood, PO Box 2026, Frederick 21701 (717) 485-4714.

Maryland Atari Computer Club, James Hill, 8591 Wheatfield Way, Ellicott City 21043 (301) 461-7556.

Meade Atari ST, Bob Johnson, 1616B Forrest Ave, Ft. Meade 20755

Southern Maryland Atari Users Group, San Schrinar, 2032 Alehouse Ct, Waldorf 20601 (301) 843-7916.

MASSACHUSETTS
Acton-Boxboro Atari Computer Users Society, Dave Burns, PO Box 1523, Westford 01886 (508) 937-8046.

MICHIGAN
Michigan Atari General Information Conference, (MAGIC), Mike Lechkun, 4801 Martin Rd, Warren 48092-3491.

MINNESOTA
SPACE/MAST, James Schulz, 3264 Welcome Ave., N., Crystal 55422 (612) 537-5442.

MISSOURI
ACE St Louis, Joan Ryan, PO Box 6783, St. Louis, MO 63144 (314) 645-6431.

Warrensburg/Whiteman Atari Computer Owners, Les Lynam, PO Box 199, Warrensburg 64093 (816) 747-2543.

NEW JERSEY
Jersey Atari Computer Group, 8 Crescent Rd, Pine Brook 07058.

NEW YORK
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Atari Computer Owners of Rochester NY, Kathy Scoville, PO Box 23676, Rochester 14692 (716) 354-5513.

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Peidmont Triad AUG, Danny Hartman, PO Box 1073, Greensboro, 27402 (919) 722-9902.

Triangle Computer Club, Donald Nelson, Rt. 3, Box 760, Hillsborough 27278 (919) 942-2764.

OHIO
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Miami Valley ACE, Bruce Hansford, P.O. Box 24221, Huber Heights, 45424 (513) 439-1993.

PENNSYLVANIA
Allentown Bethlehem Easton's ACE, PO Box 2830, Lehigh Valley 18001 BBS 215-759-2683.

North East Atari Team Users Group, P.O. Box 18150, Philadelphia 19116-0150.

Spectrum Atari Group of Erie, Earl Hill, PO Box 10562, Erie 16514 (814) 833-4073.

Southcentral PA ACE, Richard Basso, PO Box 11446, Harrisburg 17108 (717) 761-3755.

SOUTH CAROLINA
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Rushmore ACE, Gregg Anderson, 3512 Lawrence Dr., Rapid City, SD 57701 (605) 348-6331.

TENNESSEE
Knoxville AUG, Bill Brosey, 953 Roderick Rd. Knoxville 37923 (615) 693-4542.

TEXAS
DAL-ACE, Rachel Duke, P.O. Box 851872, Richardson, 75085-1872 (214) 429-6134.

ST Atari League of San Antonio, David St. Martin, 3203 Coral Grove Dr, San Antonio 78247 (512) 496-5635.

VIRGINIA
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Northern Virginia Atari Users Group, Bonnie Little, PO Box 4076, Merrifield 22116 (703) 444-2419.

Southside Tidewater Atari Tech Users Society, Dick Litchfield, 1805 St. Regis Circle, VA Beach 23456 (804) 468-6964.

Woodbridge Atari Computer Users' Group. David Waalkes, 1302 Oregon Ave, Woodbridge 22191 (703) 490-1225.

WASHINGTON
Seattle Puget-Sound ACE, Nick Berry, PO Box 110576, Tacoma 98411-0576 (206) 759-1473.

STDIO, Ralph Plaggenburg, 904 N. 33rd Pl, Renton, 98056 (206) 228-5303.

WISCONSIN
Milwaukee Area Atari User's Group, Dennis Wilson, 3301 S. 93rd St, #108, Milwaukee, WI 53227 (414) 546-0282.

Packerland Atari Computer Users Society, Peter Schefsky, 2714 South 11th Place, Sheboygan, 53081 414-457-4519.

CANADA
Montreal Atari Club Atari de Montreal, PO Box 5418, St. Laurent Station, Ville St. Laurent, H4L 4Z9

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10. Adventurers Companion
11. **German Sound & Graphics**

EDUCATION

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24. Yankee 21 (Blackjack)
25. Card Games
26. Voyages Through Time
27. Space Games
28. **Paper Airplane Construction Set**

LANGUAGE

1. Fig-FORTH
2. ACTION! source codes (cf. GAMES 7)
3. ACTION! Graphic Demos
4. ACTION! Utility Programs
5. ACTION! Modules #1
6. ACTION! Modules #2
7. BASIC XL-REF Base
8. ACTION! Modules #3
9. KERMIT telecom
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11. Pascal Sampler
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13. Turbo Basic 400/800
14. C Language
15. Turbo Basic Docs

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4. BASIC with animation
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6. 14 Movie/Video

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8. 18 Classics
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21. 130XE upgrades + Util.
22. HI-RES 130 (graphics)
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26. Adelaide Symbolic Disassembler
27. DB's & Spreadsheet
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